

# Aviation News

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AUGUST 14, 1944



**Newest in the Cobra Line:** Latest picture of Bell's new P-63 Kingcobra fighter, successor to the P-39 Airacobra, which has been an important factor in the Russians' westward drive. The P-63 is heavily armed with a 37-mm. cannon in the propeller hub and carries .50-caliber wing guns. Its speed is quoted at approximately 400 miles an hour.

## **Army, Navy Surplus Planes May Go on Market Soon**

Bids on personal-type aircraft will be opened under arrangements similar to those followed with DPC-owned planes.....Page 7

## **CAB Research Staff Analyzes Trans-Atlantic Pattern**

Analysts' reports on post-war traffic volume and flow offer alternative plans based on competition on U. S. lines.....Page 44

## **Mail Pound-Miles Gain 51% in Year; Doubt Slump**

Authorities believe high level of air mail will be retained but doubt immediate development of "all first class by air" policy.....Page 47

## **Labor Shift to Pre-War Jobs to Cushion Plane Cutbacks**

Industry expects fully 50 percent of aircraft workers to return to regular employment and to household tasks.....Page 32

## **Rocket, Robot, Radio Changes Bring Tactics Revision**

Rocket-powered planes capable of 500 mph. expected to set pace over battlefields of Europe shortly.....Page 23

## **U. S. Compiles Airworthiness Data for World Talks**

Recommendations of industry on post-war problem sought for presentation to CAB and aviation division of State Dept.....Page 11

## Washington Observer

**AIR POWER POLICY**—Senator Murray (D. Mont.) is planning hearings based on the air power policy of the Aeronautical Chamber of Commerce, which was brought to his attention during hearings on reconversion legislation. Murray has requested that the Chamber prepare testimony for the hearings and will call in Army and Navy witnesses for their views. The Navy has expressed approval of the Chamber declaration, while Army witnesses naturally agree that a strong air power will be necessary in the post-war period.

**CHAMBER PROGRAM**—While Senator Murray probably will be the first member of Congress to preside at hearings leading toward a formulation of a national air power policy, the Chamber is prepared to develop its views before any Congressional group examining the subject. The Calhoun and Woodburn committees in the House, as well as the full Military and Naval Affairs Committees of both House and Senate, probably will examine the subject of air power in some detail, so that the Murray hearings undoubtedly will be only one facet of the picture.

**INDEPENDENT SURVEY BOARD**—One suggestion drawing attention is that an independent survey board be appointed to report on the whole picture of post-war air power. This would be along the general lines of the Morrow Board, although the Morrow Board was an investigative body and the suggested board would be free to devote its activities entirely to forward-looking deliberations.

**INTERNATIONAL AGREEMENTS**—The importance of preliminary moves being made in Washington and abroad in regard to international aviation agreements has been overlooked by some sections of the industry. Proposals for airworthiness requirement agreements with Britain and undoubtedly with other nations should not be dismissed as another engineering problem. Behind it are many factors involved in post-war air commerce, which vitally affects the entire aircraft manufacturing industry. The Aeronautical Requirements Committee of the Aeronautical Chamber has been doing pioneer duty on this project and deserves the recognition of the industry.

**RECONVERSION**—Only a few members of Congress showed up after the news to tackle reconversion legislation, but countless are

fascinated on various phases of the program and it now appears there will be no overall reconversion bill but that several bills will come before Congress touching on related matters.

**WOMEN WORKERS**—Some members of Congress believe women's intention to stay in industry will be the largest single headache in post-war reconversion problems. One more-



SRD's, whose production was recently discontinued, cruise over Task Force 38.

her said he was convinced that at least 50 per cent of the women employed in industry want to keep their jobs after the war and that the heads of large plants will do nothing to replace women where they have been found to be as capable as men. Some severe national survey of this situation might avoid future problems, especially in the aircraft industry where the percentage of women is large. It's a suggestion for Mr. Gallup.

**MATERIEL MERGERS**—While complete consolidation of the Materiel and Air Service Commands probably will require months, a study of the two organizations makes it apparent that divisions such as engineering, production, and procurement of the Materiel Command and the maintenance and supply division of the Air Service Command may continue as separate sub-organizations within the broad set-up. However, personnel and training organizations and various administrative functions such as the Adjutant General's office, Judge Advocate, Senate, public relations and Provost Marshal may be expected to merge, eliminating parallel functions and overlaps.

## FOR GREATER SAFETY

Great efficiency, speeding the war by night and day, and ready to assist the rebuilding of business tomorrow, are guided in safe flight by reasonable new instruments and electronic devices.

This safety equipment, carefully and skillfully built, must be protected from constant invisible vibration, landing shocks, and occasional rough weather, by a mounting (or suspension) of proven high efficiency under all conditions.

The war-tested Robinson Vibroshock® mounting, with its double neutral axis suspension, absorbs 90% of engine and propeller

vibration, and has the reserve capacity to protect vital equipment under the sudden stress of unexpected engine trouble, storms, or emergency landings.

Radio and instruments will not "go out" when needed most, and air transportation will win through to new safety records.

► A new leader, **VIBRATION CONTROL BY ROBINSON**, further describes this important new development in aircraft equipment.

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Where can they help you?



## Coated Fibreglass\* Fabrics are solving many problems, today

Fibreglass Fabrics, due to their exceptional strength and dimensional stability, are giving new life to coated cloth . . . as developed by a number of engineers and fabricators.

Made from Fibreglass Fabrics—coated on one or both sides with natural or synthetic rubber, vinyl compounds or other coating materials—these coated cloths have helped solve many wartime problems. They are, for instance, used in the fabrication of gun barrel sight covers, brilliant colored markers, solid, brilliant colored coverings, as battery covers, thermal insulation covers, oil resistant covers, fire-resistant coverings. Experimental uses include dust storage bags and dehydrate tanks.

While the characteristics of these coated cloths differ with the type of coating applied and the manner of application, all acquire some highly essential quality from the Fibreglass Fabric base. These Fibreglass Fabrics are woven from extremely fine, continuous fibers of glass . . . inorganic, chemically stable, incombustible, neither shrinking nor stretching under changes in temperature and humidity, combining great tensile strength with light weight.

Such a combination of qualities has had a strong appeal to fabricators and users of coated cloths. Almost daily some potential use of this strong, light, and versatile material is being suggested.

### Design Engineers are invited to write

While much research is being directed toward the production of coated Fibreglass cloths, engineers and fabricators now have considerable data on their manufacture and application. Should you need to know more about these fabrics, write, describing what characteristics you desire in the finished material.



Quinn-Corpus Fibreglass Corporation, 1902 Michigan Bldg., Toledo 1, Ohio  
In Canada, Fibreglass Canada, Ltd., Ontario, Ontario.

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#### AIRCRAFT INSULATION

Fibreglass insulation, Type DPC-9, is a lightweight, non-flammable material. It is readily and easily installed in any machine shop—over under conditions of extreme humidity. It is available in 1½, 2 and 3½ thicknesses in sheets and is used for sound proof and thermal insulating purposes.

#### AIRCRAFT BLANKETS

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#### TAPES

Another all-glass product—known from Fibreglass tapes. While extremely used for repairing metal, generators and other electrical equipment, many other applications have been found for these tapes, including use in various—such as concrete or thermal insulation on hot or cold lines for soundproof insulating pipes, etc.



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Aviation News  
McGraw-Hill Publishing Co., Inc.

August 14, 1944

## First Army, Navy Surplus Planes May Go on Market Next Month

Bids on initial batch of personal-type aircraft will be opened under arrangements similar to those followed with DPC-owned planes.

By WILLIAM G. KEY

Another month will see the first Army and Navy surplus planes moving into the civilian market to supplement the 4,500 DPC-owned transfers by the CAA-WTS program now being sold under the surplus program.

Process of contracting for storage and sales centers for the personal-type surplus planes from the Army and Navy is virtually completed. Types available for sale are being turned to the sales areas. First bids will be opened under the arrangements followed with DPC-owned planes.

About 3,500 craft purchased by DPC for lease to operators of War Training Service schools already have been sold to private parties, with usually several bids for each plane sold.

► **Seating**—Surplus aircraft disposal is settling down to routine, as shown in the accompanying diagram, but organization will be kept flexible to meet problems which cannot now be foreseen.

Overall policy and planning is vested in the Aviation Division of the Surplus War Property Administration, which is headed by Lt. Col. William B. Harting. All domestic surplus plane sales have been assigned to the Reconstruction Finance Corp., which in turn has designated the Defense Plant Corp. to handle the details.

State War Training Service of Civil Aeronautics Administration supplied a going organization, and because it already was closely associated with Defense Plant Corp. in the WTS program and its financing, this organization has been switched to the surplus disposal program. So far, the DPC-owned planes—which technically are not surplus but are being dis-

posed of under provisions of earlier legislation—have been sold through existing mechanism of the CAA, planes being stored under contract by the WTS operators. Sales will continue on a bid basis until new surplus disposal legislation has been passed by Congress, after which it is expected there will be some difficulties permitted.

► **Sales Centers**—Now that the Army and Navy are releasing surplus planes to SWPA and most of

them are being assigned to DPC for sale, DPC is utilizing storage facilities of its own and is contracting with fixed base operators to establish sales centers for available types. Generally, the WTS organization will be absorbed by DPC so that the apparent two channels of sales will be eliminated by the first of the year.

Actually, other than for technical purposes, the two organizations are working as one already. Sales, other than in the transport category, are made directly at the sales centers on a bid basis, handled by CAA-WTS organization. Sales will continue on a bid basis until new surplus disposal legislation has been passed by Congress, after which it is expected there will be some difficulties permitted.

## Advice to Surplus Plane Buyers

Facts that prospective buyers should understand clearly before submitting bids for surplus planes have been outlined by government authorities who fear widespread misunderstanding as sales of personal-type planes move into heavy volume.

Here are some of the points to watch:

► **Registration of Planes**—Most surplus planes received from dispossessed of purchasers have come from those who have not inspected the planes before offering a bid. Government authorities emphasize that the planes are sold, that they are "in all manner of condition." From these which may be readily certified to others in poor condition. The invitation for bids clearly points this out, but many have not heeded the warning.

► **Coating Prices**—Coating price of each surplus plane is worked out on a definite formula that has no relation at all to physical condition or the probable cost necessary to return the plane to acceptable condition. Age to date of sale is depreciated on a basis of eight percent a year. Optional equipment installed at delivery time and other equipment installed after original delivery, is added, with depreciation adjusted on an

age basis. There are deductions for any missing standard equipment and for hours of normal use. Some wear and tear is also deducted, computed from 40 cents an hour for all life engine up to 1,000 hours, and 10 cents an hour thereafter. This deduction is based on a 100-hour life expectancy.

► **Acquisition**—When planes have been sold and are deemed suitable a registration certificate, a ferry permit and a temporary airworthiness certificate must be obtained from the CAA representative at the field, which permits the buyer to fly the plane to his home base. There, all initial, final, and intermediate checks of the aircraft services or WTS must be removed, necessary repairs made, a permanent airworthiness certificate obtained, and the NC number placed on the ship.

► **Type Designations**—While many of the service planes that will come on the market will be identical with civilian types, their designation will be different and in some cases they may have been made. Every effort will be made to indicate comparable types, but again sufficient emphasis that equipment installed after original delivery is added or a qualified representative

**Sales Procedures**—The report of the Surplus Aircraft Advisory Subcommittee—the Page Committee—recommends that the bid basis be followed for models that do not require sales efforts. But it urges that a fixed price system combined with quantity discounts and commissions on sales of consigned planes would attain maximum distribution while inducement for sales effort is available.

Planes in the transport category are handled on a different basis, since there are not sufficient buyers to meet the demand. Such transactions must be made on a DPC, which will process and channel them to the Aviation Division of the SWPA, where available transports will be allocated.

**Foreign Sales**—Foreign sales are to be handled through the Foreign Economic Administration. This organization is not yet completed, although there are some negotiations for sales in other countries, particularly South America. Transports will follow the same procedure here as in the case of domestic applications, being processed to SWPA's Aviation Division.

Bulk of domestic sales will be handled at the 23 sales centers set up by the DPC (Aviation News, Aug. 3, Page 16). Five others are in process of contract negotiation and it is possible that three or four more will be added. There are 17 storage centers in addition to two storage-sales centers, and it is possible that the balance of approximately 40 fields acquired by the DPC for use in the Army-Navy training program will be used for storage of aircraft with no immediate sales possibilities as soon as the fields are released by the services. Probably cooperation now operating these fields will be given outsiders to manage the storage centers.

**Spare Parts**—Spares also are being assembled in storage centers. There will be no shortage of spare parts for most types of engines, engines, propellers, and components of all kinds are being released with planes by the services and will be stored as a reserve upon which owners of the planes can be called. Method of disposal of the spares have not yet been worked out.

Radio equipment for aircraft released by the services will require some modification to civil frequencies before it can be used in civilian craft, but no great difficulty is expected.



**DPC Plane Chief:** James A. Gurfeld has been designated chief of the Surplus War Aircraft Division of the Defense Plant Corp., RPC subsidiary acting as disposal agency for surplus planes in the domestic field. He has been assigned to the executive vice-president and general counsel of DPC.

**Officing of Planes**—Under the present disposal effort, the DPC-owned planes bought from private owners are offered first to the original owner at asking price. If declines, the planes are offered next to the present user—the training school operator—also at asking price. If not purchased, the planes then are advertised in the regional offices of the CAA, where a staff of WTS personnel is attached.

When the Army-Navy surplus is placed on the market, planes in this category can be bought without formality of a bid by purchasers who offer the full asking price in certified or cashier's check within a period 10 days before the opening of bids, but not later than noon of the day preceding opening of bids.

## Latin American Market Surveyed

Private flying clubs in 18 Latin American countries, which with the United States form comprise the Inter-American Republics, are being surveyed to determine their needs for surplus transport planes.

A questionnaire has been sent out by Alfredo de las Rios, vice-president of the Republics, to ascertain the needs of war and aero clubs throughout the American area for planes and spare parts.

**Mostly Two-Place Planes**—Most

of these planes are two-seated with 50 to 90 h. p. engines. Models are Piper, Taylorcraft, Aeronca, Porterfield, Intermals and Luscombe. Others are 100 to 150 h. p. by Furland, Piel, Comm, Curtiss, Howard, Stinson, Waco, Ryan, Meyer and others.

De las Rios pointed out to the Latin American wings that "the acquisition of these airplanes by the buyers in the other American republics is difficult, since these buyers are unable to inspect the condition of the planes. As a solution to this problem, the United States wing is trying to obtain the help of the manufacturers in order that the manufacturers may inspect and certify as to the flying condition of the planes of their own manufacture, and, if possible, so that they may assume the responsibility for their export."

Morris M. Manner, aviation director for the Coordinator of Inter-American Affairs, is asking the U. S. wing in negotiations to include surplus planes available to Latin American wing and aero clubs.

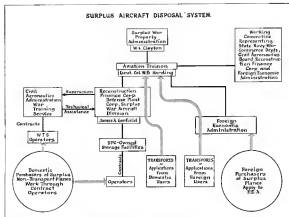
## Offices Opened By Surplus Unit

James A. Gurfeld, chief, aided by T. E. Wadden and E. L. Taylor.

Surplus War Aircraft Division of the Defense Plant Corp., which ultimately will absorb the organization of the War Training Service of CAA last week, had begun to function in the Reconstruction Finance Corp. building, 511 Vermont Avenue, N. W., Washington, D. C.

Chief of the division is James A. Gurfeld. His two chief assistants are Thomas E. Wadden, who will have general supervision of factual data, location, condition and price of planes to be sold, and E. L. Taylor, who will direct operations and sales. Other top assistants are E. W. Lothrop, until recently director of research and statistics for the Aeronautical Chamber of Commerce, who will handle component parts, and George W. Smith, who will be in charge of plane evaluation.

**Aided WTS Plane Purchase**—Mr. Wadden participated in the Defense Plant Corp. purchase of planes for the WTS program, his work assisting the Reconstruction Finance Corp. since 1933. Mr. Taylor formerly was



**How Surplus Planes Will Be Sold.** This chart shows the organization being set up to handle sale of surplus aircraft. The straight line marks the flow of organization. The flowing, wavy line shows processing of various applications of purchasers. Transports

are under allocation and channel through RFC, for domestic users, and FEA for foreign users, in Latin. Col. William B. Scudling, director of the Aircraft Division of the Surplus War Property Administration.

## CIA supervisor of Segun 1, and price to that had been manager of training for Southern Aviation in Oklahoma City. Mr. Lothrop was manager of market development at the aviation field for Westinghouse and later assistant general sales manager of Sperry Gyro before joining the Chamber organization.

Mr. Etienne has been associated with Brinkhoff Flying Service, College Park, Md., and was in charge of engineering operations of the aviation division of the Rubber Development Corp. in the Amazon area.

## New Materiel Office

A new reconstruction organization with offices at 47 Broad Street, New York, has been formed by the Eastern Procurement Division of the AAF Materiel Command to aid contractors in necessary readjustments attendant upon termination and procurement changes.

## Surplus Airplanes Mostly Trainers

While no actual breakdown is available, bulk of surplus planes now being turned over by Army and Navy is Surplus War Property Administration are in the trainer category, although some old combat planes and gliders will be included.

Primary, basic and advanced trainers of various types will be offered for sale in civilian, some requiring modification.

**Some Combat Planes**—The few combat planes will not be offered on the civilian market. Other craft have been restricted and probably will have to be converted by SWPA before they fall apart. Two are Severs-Marchetti transports taken over by this country when Italian airlines in Brazil were liquidated. Two are Douglas Dolphins. Others have been wrapped around telephone poles

and fence posts by fast-stopping pilots.

Some are good planes that have seen their measure of service and have been retired, battle-worn. One heavy bomber of this group is now being analyzed to determine the economic wisdom of salvaging components from planes in the combat class. There also are several of the original versions of the B-24 bombers, probably destined for classroom use.

**Training Gliders**—Another large block being turned over consists of training gliders, few if any of which can be used for aviation uses. Efforts are being made to devise other channels of sale for non-aircraft use.

A few light saucers that were used in training will be placed on sale and it is expected that there will be little trouble in disposing of them. They will be handled through normal channels and information will be available through regional CAA offices.

## Schools Studying Fixed Base Plans

Former Army contract operations to meet at Parks Air College, East St. Louis, Ill., this week.

Representatives of fixed Army contract flying schools will meet at Parks Air College, East St. Louis, Ill., Aug. 14 and 15 to plan future fixed base and feeder line operations and flight training. Six more schools closed Aug. 4, bringing the total closed to 22, leaving 40 cadet schools and one artillery liaison school still in service.

The Oliver Parks organization is considered to have more experience and information on airport development, on aircraft sales and on prospects for fixed base and feeder line service than most other similar organizations. Mr. Parks is said to be willing to help the non-converted aviation industry as much as he can.

**Fuel Problem:**—It is believed the government will permit use of gasoline by training schools for legitimate maintenance and accumulation of flying skills. Airplanes for training purposes are available, but not enough of the right type for charter and taxi work can be had. There are particularly none at this time for feeder line work, but doubtless there will be available at the time new routes are authorized. Uncertainty as to the government's policy on feeder line expansion is a problem, in that nothing much can be done about now.

The East St. Louis meeting is being held by the Eastern Information Council of Aeronautical

Training Society for all ATEC closed schools. The society has three information councils—co-operative groups patterned somewhat after the aircraft production councils—in the southeast, central, and West Coast regions.

**Schools Closed:**—Six schools closed in August by order of the Army Air Forces Southern Aviation School, Camden, S. C.; Walters Aero Tech, Hickam, Ariz.; Bryson Flying Service, Corsa, Tex.; Spartan School of Aeronautics, Tulsa, Okla.; Hunter Flying Service, Vicksburg, Tex.; and Morton Air Academy, Blythe, California.

Gen. H. H. Arnold, chief of Army Air Forces, placed all primary training for AAF in the hands of selected civilian schools in the summer of 1939. Later, Capt. Dick Burton, R. C. Young, chief of training, said production of pilots had reached 110,000 per year. He said there was only one fatal accident for every 43,673 hours of primary flight, and added that both a quantity and quality job had been done.

## New Marine Office

Reestablishment of the office of Assistant Commandant for Air for the U. S. Marine Corps is proposed in a bill introduced by Rep. Mass. ranking Republican member of the House Committee on Naval Affairs. The bill prescribes that both the Assistant Commandant for Air and the Assistant Commandant for Air shall be line officers not below the rank of colonel and that each have the rank pay and allowance of a major general while holding office.

## Hammond to Close Plant Next Month

Hammond Aircraft Co., largest aircraft company in the San Francisco Bay area, will suspend operations in September when the company's present contract for manufacture of components for the Douglas A-20 is completed.

Hammond, established six years ago, is the first major war plant in the area to close as a result of aircraft schedule readjustments and the shutdown will affect about 1,200 workers, about 80 percent of whom are women and most of whom will be referred to China Aircraft Corp., now manufacturing parts for the Douglas A-28.

**Assessment:**—A joint statement by Frank P. Lovett, president, and officials of Production Machine Operators and Aeronautical Lodge 1237, announced suspension of operations. Hammond has declined no peace-time plans.

Officials of the Air Transport Division of Motion Navigation Co. disclosed that they may use the property now leased to Hammond Aircraft for an overhaul base. If their application for trans-Pacific service is granted, The property and buildings of Hammond Plant No. 1 are owned by Nelson and Nelson Mills Field. Plant Two is in San Francisco.

## N.C. Air Week Off

Because of the polo epidemic, the first annual North Carolina Aviation Week, scheduled for Aug. 14-20 at Charlotte has been cancelled. One of the main events was to have been a meeting of 1,200 CAP pilots.

## U.S. Compiles Airworthiness Data For Talks on World Agreement

Recommendations of industry on post-war problem sought for presentation to CAB and aviation division of State Dept.

By SCOTT HERSHEY

There are increasing signs that an international aviation agreement covering airworthiness requirements is not far away, although the trend of thinking on the matter within the industry is not yet clear.

Officials in Washington dealing with the problem are presenting the aircraft manufacturers for industry views which they would like to have in the hands of the Civil Aeronautics Board and the aviation division of the State Department before the month is out.

Observers in the Capital see in this government activity additional evidence of an awakened commercial consciousness within the government and moves to meet the inevitable competition from the British in the aviation field. There is a mounting con-

viction that commercial aviation will be one of the most potent instrumentalities of foreign policy, tangible evidence of which was the recent decision to appeal civil air attaches at our embassies.

**Competition Involved:**—Many factors are involved including competition from foreign builders whose labor costs are not so high as our own, a situation that might react unfavorably to the domestic industry. Some industry people who fear no agreement, contend that we can build better airplanes and sell them regardless of costs. Others point out that a strong agreement would give our builders a psychological edge in that purchasers would feel that the government was behind our aviation products.

The Airworthiness Require-

ments Committee of the Aeronautical Chamber has set Aug. 19 as the deadline for receipt of opinions from the Chamber's member companies on airworthiness requirements and suggestions on international agreements. These opinions will be compiled, analyzed and summarized and submitted to CAB and the State Department.

**More Time Asked:**—It is understood that some companies have asked for more time to formulate their views, but government officials are pressing for immediate action, indicating a desire to move on the whole problem of international aviation immediately.

Problems of airworthiness requirements are receiving increasing attention in the industry generally, although reports from abroad indicate the British industry is ahead of our own in this connection. It is no secret that views on the subject are widely divergent, ranging from the opinion of some that there should be no agreement at all up to a complex international setup.

**Questionnaire:**—Importance of the subject was pointed up at recent meetings held simulta-



CARRIER BRINGS PLANES TO GUADALCANAL

A Navy baby carrier, one of the newest types, is shown here arriving at Guadalcanal carrying a load

of Lockheed P-38 Lightning fighter planes for replacement of worn out craft throughout the area.



FLYING FORTRESS NINE YEARS OLD:

New parts of nose and wing have brought this change to Boeing's famous Flying Fortress bomber. Top photo shows the original Boeing 259 which was first flown on July 25, 1935. Below is the current B-17G.

The old 259 carried five guns, the B-17G has 13 machine guns with dual turrets and supplementary chin guns, belly and top turrets and tail gun position.



several on the East and West Coasts of the Chamber's Aeronautics Requirements Committee. A series of six questions regarding it have been put to the industry and officials are hopeful that from the answers they can develop a definite policy which will accurately reflect the industry's thinking.

The questions propounded, which pre-empt an indication of Washington thinking in the matter are: Should uniformity in aeronautics standards be considered an objective of such importance as to be seriously sought, with a readiness to make appreciable concessions if necessary to attain it?

If an attempt at complete international agreement is made, to what extent would your company be willing to curtail its interests to the United States membership on an international aeronautics body, knowing that the Board's decisions would be final and binding?

If there isn't to be international uniformity in aeronautics, what conditions, if any, should govern the admission of foreign aircraft into the United States for sale to private purchasers? In what respect should the answer to No. 3 be changed, if at all, where the sales is to be for use on the airlines of the private, foreign or other commercial employers?

If agreement to as great a degree as possible without the formality of having agreements binding is decided as the course of action, what new aeronautics requirements items do you feel should receive first consideration for such international agreement?

What regulatory agreements, if any, should be placed on the equipment of foreign airlines by the countries into or through whose territory they fly? R. G. should the United States establish regulatory standards to govern the equipment or operation of all foreign airlines entering our ports?

## Names Omitted

In a listing of the members of the board of directors of the Aeronautics Administration Board, there is a story on the association's recent convention, the names of Dudley Steele, manager of the Lockheed Terminal, Burbank, Calif., and Don Swanson, Redwood, Minn., were inadvertently omitted.



### B-39 SPECIAL:

Here are the flying officers of the George H. N. Arnold Special Boeing B-39 Superfortress, named for the AAF's commanding general, who autographed the bomber as it was progressing through the Boeing plant at Wichita. Left to right: Lt. John J. Sheenan, Jr., captain; Capt. Jack Subermeier, bombardier; Capt. Bert Allen, navigator; Lt. Col. Arnold V. Rosen, flight engineer and Lt. Col. William P. Artewicz, special radio operator.

## Fairchild Volume Up Over 100 Percent

Totals \$162,590,364 in 1945, compared with \$47,668,224 in 1942.

Total dollar volume of business done by Fairchild Engine and Airplane Corp. last year was reported by J. Curlian Ward, Jr., president, at \$162,590,364 compared with \$47,668,224 for 1942, an increase of 134 percent over 1942 and 645 percent over 1941.

Net income for 1945 was \$1,523,253 after Federal taxes of \$8,610,695 and amounted to 1.8 percent of sales. This was equivalent to \$1.55 per common share against 90 cents a share for 1942.

**Resignations**—The figures are after renegotiation with the price adjustment schedule of the AAF Contract Procurement District which resulted in an agreement signed by the corporation Aug. 1, subject to approval by Washington. Under this agreement, Fairchild will pay to the government \$1,333,116 and receive certain units and items aggregating \$419,904 and

## AVIATION CALENDAR

Aug. 14-1945—1945 State Meeting, Royal Pines, Fla., 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 15-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 16-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 17-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 18-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 19-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 20-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 21-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 22-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 23-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 24-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 25-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 26-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 27-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 28-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 29-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

Aug. 30-1945—1945 Aircraft Show, 10:00 a.m. to 5:00 p.m. (See 2001).

unallocated escalation estimated at \$423,684 applicable to the year recovered by the report.

Ward, commenting on the largest dollar volume of shipments in Fairchild's history, said that though Consolidated sales for the year had more than doubled, "recent substantial contract cancellations and shifts in production have prevented continued expansion of sales and shipments in 1944."

**Bookings**—Airlines orders at year end amounted to approximately \$154,668,000, compared with \$308,000,000 at the end of 1943 and \$146,000,000 on Dec. 31, 1942. Federal taxes for 1942, Jan. post-war refunds, were \$9,310,000, compared with \$3,316,474 for 1943 and \$1,217,371 for 1942.

During last year Fairchild set aside and credited to reserves for readjustment to a post-war basis \$919,884, compared with \$325,793 similarly allocated in 1942.

## Aero Club Revived

Aero Club of Washington, one of the oldest such organizations in the country, formed in 1909, has been revived after inactivity since February, 1942. Robert Kiskadee, Boeing representative in Washington, served as temporary chairman of the preliminary meeting at which plans were made for election of officers Sept. 5.

# Unemployment Pay Fight Slows Senate Reconversion Legislation

Conservative George Plan leaves job of determining standards of idle warplane workers to states; Kilgore-Murray Bill sponsored by labor, provides generous payments and allowances for vocational training.

Although the Senate last week stepped up sharply the tempo of its treatment of reconversion and demobilization legislation, a stiff fight over unemployment payments threatens to delay final action for perhaps several more weeks.

There was no doubt, however, that recent military successes in Europe had finally convinced the Senate and House that immediate demobilization legislation was imperative. The coalition of conservative Democrats and Republicans, which formed their link quickly in an effort to defeat the Kilgore-Murray Bill, was determined to push for the George Bill despite the fact that final enactment of a measure may be held up.

**Two Plans Weighed**—It was difficult to predict which of the two unemployment compensation plans would eventually emerge from the current Senate deliberations. The George Plan, conservative in character, would leave to the individual states the determination of a new employment standards for warplane workers and would guarantee minimum of state unemployment compensation funds. The Kilgore-Murray Bill, sponsored by organized labor, would provide liberal unemployment payments as well as generous allowances to veterans for vocational training.

The unemployment compensation issue was virtually the only point on which there was determined opposition. Opponents of the demobilization and reconversion legislation accused scheduled for relatively smooth sailing.

**House Ready to Act**—Meanwhile, on the House side, plans were being drafted for prompt handling of demobilization bills. Indicating the speed with which the House planned to move was the statement made this week by Speaker Rayburn, who called on the entire House membership to be ready to return to Washington by

Aug. 16 to consider this legislation.

Escalating the Senate disagreement over compensation, however, was the violent controversy which raged between WFB and the Army over the status of war production. So far as the WFB was concerned the disagreement was not officially recognized until resignations were offered by two officials in the Bureau of Planning and Statistics who offered to quit in protest to what they described as the Army's unwillingness to give true estimates of production and inventories.

**Climate**—This controversy started over a month ago and reached a climax in General Sorenson's recent statements picturing the production outlook as very dark. At the same time, WFB's production report for June made a belated appearance and the results it clearly showed the results of passing through Army hands it indicated that production was not too bad. Reports contradicting WFB that the munitions report was vague and apparently purposely obscure, met with official silence, but privately more than one top official admitted the Army's concern and declared the

current production volume was nothing to be alarmed about. These are the facts which WFB recognized but which they were hesitant to release in their desire to avoid a show-down fight with the Army.

Of the entire war production program, only 5 percent represented a problem area. The other 95 percent was in relatively good shape.

**Of the Army supply program, which amounts to about \$20,000,000,000 (but which excludes aircraft, naval and maritime construction), only about 15 percent represented a problem area.**

From November, 1943, to June, 1944, the Army supply program was scheduled to drop 10 percent. Actually it dropped 18 percent, leaving about 5 percent to be picked up again.

But even after the two WFB officials publicly said to be released from the agency because of the disagreement over production figures, the Army continued to deny there was any difference of opinion. Maj. Gen. Louis B. Clay declared the report in question was a general inventory which the Army had been reluctant to release because it might tend to obscure needs for specific weapons.

## Foreign Trade Body To Study Aviation

Post-war transportation, including aviation and merchant shipping, will be considered at the 31st National Foreign Trade Convention, to be held under the auspices of the National Foreign Trade



LIGHTNING JAM CARRIER DECK!

Deck view of carrier shows how closely planes are stowed on deck. Note how they are placed alternately, one facing one way, the other facing the other to secure maximum of space being used on the carrier's deck.

General on the Hotel Pennsylvania, New York, on Oct. 10-11-12.

Other topics to be considered include the future of long-range operations, government controls affecting private enterprise in the foreign commercial field, disposition of government-owned airplanes, and negotiation of commercial treaties.

## New Schedule Put at 96,824 Planes in '45

Indices full weight of U. S. air power ultimately will be brought to bear on Japs.

Censorship now permits disclosure of total production schedule under the W-11 program, with 96,824 planes to be produced this year compared with 101,944 in 1944.

As announced by Aviation News last week, the new schedule reflect little change from actual production capacity as it exists today, being based on a revision of goals rather than a reduction in output.

**More Transports**—Transport will be made in greater quantity next year, 38,588 against 10,348 this year. The percentage of large transports will make this figure more significant, since Douglas C-54 Superfortresses will be turned out in increasing numbers.

While heavy bomber schedules are reduced only slightly next year, the B-29 and presumably the B-48 program will be in full swing and airplane weight should decrease fairly little.

**Bombardiers**—The total reduction in schedule are 10,642 for 1945 and 4,632 for 1946, of which 16,907 represent combat planes as the schedule next year and 3,646 for this year. In all, 76,297 heavy planes are to be built in 1945.

Only 4,675 trainers are scheduled next year, against 8,837 for 1944—although the total of trainers for 1945 has been increased on the W-11 program by more than 100 planes.

**Pacific Needs**—Operations in the Pacific will be at extreme large-scale or in close support of ground troops. There will be few intermediate operations, consequently the medium bomber program is reduced, but more fighters must be turned out to meet 1945 schedules. Fighters now can do the bombing job of mediums at short ranges.

## Emphasis Shifting to Long-Range Planes

Growing need for B-29s and B-32s will cut contracts on C-46 cargo planes and on B-24s.

Ballot points in the aircraft outlook program and schedule revision as announced by the Office of War Information show a shifting emphasis in the air war as illustrated by a growing need for Boeing B-29 and the Consolidated Vultee bombers assigned to the short-range bombers and also the preponderance of transport type for longer range and capacity.

First effects of the program revision will be:

(1) **Cancellation** of the contracts for the C-46 cargo plane at Hughes Aircraft, New Orleans, which is not yet in production. There is no cancellation of Hughes' subcontracts for C-46 wing panels in which the plant was engaged. Discontinuation of other C-46 production will require incineration at Curtiss-Wright facilities at St. Louis, Kansasville, and Buffalo, the result of this year with a decrease next year.

(2) **Reduction** of B-24 production at North American, Dallas, and transfer of aircraft work from Southern California to Dallas to relieve the labor shortage in Southern California and to provide jobs for the released workers.

(3) **Transfer** of some airplane parts production from Akron to Evansville, Ind., to free workers for critically needed heavy tire production in the Akron area.

Most important immediate reduction is in the schedule for the C-46 Commando. Effect of the reduction will be:

(1) **Delayed** start to enter upon production of a proposed 38 C-46 planes monthly.

(2) **Curtis-Wright** at St. Louis, where parts are produced and at Kansasville, where C-46s are assembled will work toward a schedule of 48 planes monthly instead of a previously planned 106 monthly next year, the 54 plane schedule not yet having been reached.

(3) **Curtis-Wright** at Buffalo will work toward a production schedule of 130 monthly, tapering off to 100 in mid-1945.

The report said the B-24 Liberator is being replaced in considerable part by the much heavier B-29 and B-32. The plant affected

principally is North American, Dallas, B-24 outback is also being made at Consolidated Vultee in San Diego, and at Ford's Willow Run plant. The reduction in overall schedules at these two plants will be from 34 a day to 14 a day, the rate to depend upon how quickly Consolidated can get into manufacture of the new B-32.

The War Department estimated the overall program will result in the immediate release of some 29,000 aircraft workers and the gradual release of an additional 100,000 during the balance of the year to other war production and to meet critical civilian needs.

## Wasp Militarization Or Dissolution Asked

The controversial WASP attitude was back in the news again last week with a voluminous report to General Arnold from the staff of the War Department, Directorate of Women Pilots, AAF, in which she recommended that the women pilots either be militarized and commissioned as officers or that serious consideration be given to dissolving the service.

**Recruiting Halted**—The House several months ago rejected General Arnold's recommendations and recommended to committee a bill to authorize the WASPs in view of the unneeded production of Government-trained male pilots now idle. As a result of this, the enlistment of women flyers has been discontinued.

However, some observers saw in the War Department's action in rejecting Mrs. Cochran's report, a move to put pressure on the Senate for action on a bill identical to the one rejected by the House.

The War Department disclosed that a majority of the 4,687 enlisted men who were trustees in the AAF's civilian pilot institute for its program, which was scheduled to be discharged and returned to civilian life at their own request rather than remain as enlisted technicians in the AAF, many are in the higher draft age brackets, but all who are discharged will immediately be subject to Selective Service. The option of discharge was offered, the War Department explained, because the men had volunteered for specific assignments, training and when the program was eliminated it was decided the volunteers should be returned to their former civilian status and be subject to normal induction.

## Soaring Society Resumes Meetings

Morale flight specialists review progress of civil and free-concept increased power-war development in two-day Brooklyn conference.

Paroading post-war expansion of glider construction, Soaring Society of America resumed its annual meetings with a two-day conference Aug. 3-4 at the Polytechnic Institute of Brooklyn, N. Y.

Though organizational activity had all but ceased, specialists in motorless flight came together in their first non-flying convention with an accumulation of experience and data derived from the first war, in which gliders have participated.

**Papers**—A score of papers were delivered—on reaction engine propulsion of gliders, on the application of cyclic engine power, on the physical structural and tactical development of glider war tactics between the German invasion of Crete and the Allied invasion of France, on contributions of gliding and sailing to aircraft design, and on various other subjects.

Officials said the conference laid the groundwork for a new three-fold post-war program covering the science, commerce, and sports aspects of glider development. Dr. H. H. Armstrong, head of the department of aeronautical engineering, and Dr. Nicholas J. Hoff, associate professor, at the Polytechnic Institute, cooperated with Ben Shippek, president of the Phrynosoma Flyeers Association, in planning the program which will cover all phases of present glider techniques and post-war possibilities.

Application of rocket propulsion, said Dr. J. K. Krieger, director of the Polytechnic Institute, will eliminate external tailfins devices and ground crews, and enable the pilot to gain altitude and pass from the earth to the sky. Power rockets of jet engines can be located in the tail or in the wings, he said. He discussed problems in detail.

Stanley Carveron, of Frankfort, Kentucky, described the application of thermoplastic materials and propellers to a cinema glider and resulting performance. At present, CAA requires that powered flying machines meet minimum light airplane standards, or have insuffi-



Glider Specialists Convened: Officers of the Soaring Society of America with their guests at the society's two-day conference in Brooklyn, Aug. 3-4. Left to right: Major Elmer Noyes, AAF, Parker Leonard, SAA president; Ben Shippek, SAA secretary; Lt. John Smolinsky, USAF; Captain Carveron, AAF; Dr. W. B. Krieger, Douglas Aircraft Co.; Dr. B. Hoff, Armstrong, director of aeronautical engineering, Brooklyn Polytechnic Institute, where the conference was held.

cient power to take off. Efforts to perfect powered gliders are futile under the regulation.

**Glider Contributions**—Wolfgang J. Krieger, Douglas Aircraft Co., gave 49 specific contributions of glider design and operation to the improvement of powered aircraft.

Major Elmer Noyes, Army Air Force, outlined the tactical development of military glider tactics from the 70-plane 700-man invasion of Crete to the Allied landing of three divisions in thousands of gliders in the Normandy back yard.

## Drinkwater Resigns Continental Post

Torrell C. Drinkwater has resigned as executive vice-president and general manager of Continental Air Lines, effective Sept. 1. He also is relinquishing his posts of director and general counsel. He and his plans for the future were indefinite.

Drinkwater has held his present executive position with Continental since Sept. 1, 1943, when he succeeded Robert F. Ross, who took a leave of absence to accept a commission in the Air Transport Command. Drinkwater has served as general counsel since 1943, has returned to Continental last June 15.

**Expanded Route Mileage**—Under Drinkwater's management, Continental expanded its route mileage more than 70 percent, opening its service between Denver and Reno-City May 1 and between Denver and San Antonio May 1. He has represented the airline in its applications for additional new routes totaling more than 2,500 miles.

Continental had about 200 employees when Drinkwater took over the executive post and now has more than 3,900, including 100 on the line's war projects. The company operated one of the largest modification centers for Boeing's B-29 Superfortresses. July 1, under a change in Army policy, the last canceled its prime contract for the modification center and is continuing the work under a subcontract with Boeing.

**ATC Contract Near End**—Continental's Air Transport Command contract will be terminated soon with the service reverting to all Army operation.

Drinkwater has served on the board of directors of the Air Transport Association, the only representative of a smaller line presently on that board.

## P-61 Armor Revealed

Black Widow night fighter crews and armament bays are protected from 38 and 56 caliber machine gun fire by specially-designed armor plates, bullet resistant glass and deflector plates, Northrop Aircraft reveals.

**New Landing Flap**—The company also reports that the unusual maneuverability of this large and powerful fighter is due to the incorporation into the plane of the first full-span landing flap, combined with a new-type slotted wing which retracts into the upper section of the wing. Oxygen apparatus is provided for the crew for high altitude work.

The War Department, commenting on the aspect of the P-61, says only that it is swift as a fast pursuit and capable of shooting down anything that flies.



# Aeronca, Lightplane Pioneer, Studying 4 Post-War Models

Company hopes to produce three 2-place craft and one 4-passenger family type, with other designs under consideration.

By ALEXANDER MCKEILLY

Aeronca Aircraft Corp., the nation's oldest lightplane maker, which built a powered glider with a 20 hp. motor in 1928, and one of the "Big Three" pie-wing lightplane builders, forecasts restrictions on private plane construction. It obtained governmental contracts for military aircraft, enlarged its plant, and has gained metal-work mass-production know-how from building sub-assemblies and completed aircraft bigger and heavier than anything the company had previously turned out.

Aeronca is still busy in the war effort, building elevators, rudders and torque tubes for the Curtiss Commando C-45-A, elevators for the Boeing B-17, and struts for the West-designed CO-4A glider, as well as component parts for the Curtiss Fielder.

**Conversion Plans.**—But Aeronca wants to be ready for conversion to non-military production when V-day comes. Preparations that far fall in two categories, design and production plans and marketing plans.

Here is what Aeronca currently will announce that it will produce in the immediate post-war period, adding that it has other designs up its sleeve.

**A**n inexpensive two-place tandem, with flying characteristics suitable mainly for learning to fly. It has been improved and refined since pre-war and military models

providing all-round better performance, improved control, greater comfort.

**A** two-place side-by-side plane whose parts will be interchangeable with the inexpensive tandem, except for a portion of the fuselage, making for greater production ease and reduction of spares.

**A** sleek two-place low-wing all-metal speedster with retractable landing gear and 80 hp. engine.

**A** four-place "family plane" with tricycle gear, but no other description released.

Ed Burn director of engineering and research, points out that every plane is a newly engineered design, not a revision of pre-war models, and that the design takes advantage of new production techniques, for cost reduction and improvement of the products.

Among design rejections of Model 1, the tandem, which already has flown, Burn cites the following:

Screenshield fuselage, weight reduction, larger and more comfortable interior, longer and wider door, better control arrangement, improved visibility achieved partly through a new one-piece Plexiglas windshield and partly through raised and polished eye plate, wings better visibility over nose and over door, sturdier cowling supported independent of engine permitting a "floating" power installation, improvement of land-

ing gear fittings, overall design for accessibility and ease of maintenance.

A prototype of the low-wing speedster, Model 9, primarily for the experienced flyer, armed at retracting army pilots, also has flown. While the prototype is equipped with a plywood fuselage, the production airplane will have an all-metal fuselage. The two main landing wheels of this plane are retracted mechanically by hand-crank. Wings and ailerons are designed so that the plane can be flown without using rudder pedals, says Burn, since the design eliminates the usual adverse yawing.

**Speedster.**—The speedster has over ten pounds per square foot wing loading as compared with about seven pounds for the other models. As a result of the heavier loading and the wide tread landing gear, the craft handles unusually well in high winds, both in the air and on the ground. Model 9 will have a cruising speed of around 125 mph, a top speed of around 135, with range about 500 miles at cruising.

Sales Director Beazett, and other Aeronca executives, have developed a comprehensive marketing program for airport operation which they believe will be a business-like setup for small airports. Details have not been announced but it is expected to include a complete plan for sales, service and maintenance for the typical small field including details down to sample bookkeeping.

**Bales Force.**—While no Aeronca distributors or dealers actually have been signed for post-war activity, a sizable sales organization is planned, including representatives in all parts of the country. Beazett has drawn largely on his own experience in setting up the post-war marketing program.

In 1931, unemployed, and with meager funds, he set up his own flying service with a flying club in New Jersey. His business expanded and he became a distribu-



Two Military Models Produced by Aeronca: Top photo shows the L-3, Army liaison plane and, below, the TG-5, AAF training glider. Neither is still in production.



tor, spending much of his time showing other young men how to set up similar flying service organizations. He is credited with establishment of many small airports, flying services and clubs, many of which served as additional outlets for planes. His introduction of second business practices into aviation sales at a period when many dealers were still using huckster methods, won him recognition as one of the foremost personal plane sales officials.

**Moved After Flood.**—Originally set up at Cincinnati, Aeronca moved to Middletown after the 1937 flood, and began operating its new plant in 1940. The Friedlander brothers, John and Carl, have been head men of the company since its beginning. John recently advanced from vice-president to president, while brother Carl, who had occupied the presidency, stepped down to a vice-presidency.

Other key men in the organization include Elmer L. Suberland, executive vice-president, who has a wide business experience, and Albert Wilkins, secretary-treasurer. Handling the engineering organizations under Burn are Chief Engineer Raymond Bennett and Leon Wolfe, research department chief, who have had important roles in the development program.

**Started With Glider.**—Wilkins says the first Aeronca, built in 1928, was a power glider design originally developed by Jean Roche, Wright Field aeronautical engineer, sold for around \$1,500.

Last sales prices quoted by Aeronca on its pie-wing planes were the tandem Defender at \$1,825 and the side-by-side Chief at \$2,275. Only post-war prices quoted by Aeronca thus far were some figures given out by Carl Friedlander nearly a year ago. These were: \$1,000 for an inexpensive plane, the minimum aircraft that would fly satisfactorily and stand up under operation requirements, \$1,500 for a higher powered two-place plane, probably Model 7, \$3,500 for a four-place plane, and \$2,000 for a two-place low-wing high performance aircraft, presumably Model 8.

**Based on Large Market.**—It is apparent in conversations with Aeronca executives that these prices are only approximate and that they can be attained only through development of a large market. But Aeronca officials confidently expect the large market.

None of the post-war Aeronca planes discussed here will be equipped with two-control arrangements similar to those used by the Grupos and the Skyhawk, Burn says his company is not re-

tively satisfied with present two-control systems, but is conducting study on them and will use two-control on models now under design.

The company is interested in some form of controllable pitch propeller, particularly for its high performance aircraft, but will stick with fixed pitch prop to keep costs down. Experiments with spring type landing gear lead to a decision to continue with the present also fixed landing gear, conventional rather than tricycle because of easier maintenance.

## Post-War Airparks Planned in Missouri

Missouri now is engaged in the development of a statewide plan for aviation which calls for hundreds of landing fields, air markets and flying regulations. The program, being evolved in Jefferson City by the Missouri Recreation and Development Commission is headed by D. Howard Deane of St. Louis.

The Missouri plan is in line with the proposed Federal program in which the Civil Aeronautics Administration plans to ask Congress to appropriate a billion dollars for development of airparks throughout the United States.

**Expansion Areas.**—The Commission recommends buying strips 2,500 feet in length—at least one paved runway, and from 80 to 160 acres of land for prices of 100,000 or less. Additional areas should be provided for public recreation, including tennis courts, golf courses, green grounds, lakes, and so on, Deane said.

Under the state air-marketing program, names of towns would be printed in the places of personal prominence. Markets would direct flyers to the nearest airparks.

## Canadian Outlay

Canadian government expenditures to provide airfields and radio facilities totaled about \$158,000,000, the House of Commons at Ottawa was told by Ministers and Supply Minister C. D. Howe. Of this amount \$18,200,000 was spent before the war, and \$141,000,000 since the start of the war.

Peacetime expenditures included \$3,700,000 to aid municipalities. Wartime expenditures included improvement of 84 airfields and the construction of 147 new airfields.



John W. Friedlander, President; Carl Friedlander, Vice-President; Elmer L. Suberland, Executive Vice-Pres. for Eng. Research; Edward Burn, Director of Sales; Alfred R. Beazett, Director of Sales.

## Southeastern Opens Three More Bases

Air service company buys U. of Georgia equipment and leases airport at Athens, Ga.

Southeastern Air Service, Inc., which has trained some 16,000 Army Aviation Cadets in two AAF primary outposts schools, has put its Major and Associate Base plan for civilian flying service into operation with the opening of a major base at the Athens, Ga., airport and two associate bases in South Carolina.

The company purchased equipment of the University of Georgia School of Aviation and leased the Athens airport (Ben Kipp Field) for a ten-year period from the Clarke County Board of Commissioners. The University's school completed a WTS contract in July and is being liquidated. It trained naval probetainers.

**Equipment**—The Athens airport and school equipment includes an aircraft repair hangar, an engine overhaul shop, a paint and dope building, a two-unit engine run-in house, two large storage hangars and an administration building. The landing field has two 4,300-foot asphalt runways, with aprons and taxi strips. There is a CAA weather station.

This airport is set up as the company's major base for northern Georgia and the western Carolinas. Two associate bases have been put in operation at Lancaster and Rock



### HIGH SCHOOL STUDENTS LEARN TO FLY:

Girl students at Los Angeles Polytechnic High School are shown in novel stationary J-17 trainers in which they learn primary flight experience and coordination of control without leaving the ground. They are ready for advanced courses after finishing this one.

Hill in South Carolina. Sidney B. Mahaffey of Lancaster is the proprietor. The associate bases are at Coulbourn airport in Lancaster and Rodley airport in Rock Hill. Under an agreement with Southeastern, they use the company's stripplains and sales contacts and in turn provide maintenance, service and flying instruction in accordance with standards set by the company.

**Expansion Planned**—Cody Leird, president of Southeastern, which has headquarters in Athens, said the company would expand the operating radius of the Athens major base as quickly as feasible. The company is making arrangements for similar base setups throughout the southeastern states.

Southeastern, a member of the Aeronautical Training Society, plans to open an approved flying school at Athens in conjunction with the University of Georgia. The company's Army primary pilot school at Jackson, Tenn., completed its cadet quota in June, contract for continuation of its other big AAF school at Bennettsville, S. C., has just been renewed by the Army.

### CAP to Expand

Two new promotional booklets, one designed to supply information on organization of new Civil Air Patrol units and the other to attract air-minded youth to the CAP Cadet program, are being distributed by the CAP.

**Expansion**—The CAP Cadet program is expected to expand with the opening of schools in the fall to supply a steady flow of party-trained youths to the Army Air Forces Organization of units in cities now without CAP elements also is being sought to widen the scope of the Cadet program.

### Local Firms Urged To Finance Planes

Aero Insurance Underwriters, in a statement on insurance of leased aircraft, point out that national financial institutions almost monopolized the financing and insuring of airplanes but that this should not happen in the case of aircraft if banks, local finance companies and insurance agents are alert to the opportunities which exist for participating in this business.

**Local Banks Interested**—Many local banks, they report, are now financing aircraft sales and many more are interested and need information on the subject. The firm with offices at 111 John St., New York, has prepared a folder on the subject containing most of the essential data to enable any bank engaged in consumer goods financing to understand how its facilities can be extended to aircraft.

Local agents, in the opinion of this firm, can play an important part in bringing together dealers and distributors of aircraft and banks which would like to expand installment financing activities.



### VACATION COURSES:

Girl students from Mendocino College, Chicago, are taking flight training on their vacation at Deltona Lake in one of E. Morris Anderson's new Piper Cub float planes. Many also in two weeks daily lessons, says Anderson, former AAF civilian flight instructor.

The epic of flight, of man's resolve to win the air, is still in the making.

Yet when the story is entered in the chronicles of the future,  
the Constellation will signal the end of one chapter and the beginning of another.

It will be recorded then, the routine transcontinental flight of less than seven hours,  
the precious cargoes swift to the war fronts, the superior speed and rate of climb and load capacity.

All these will be revealed and it will be evident that in the year 1944  
the Constellation brought to full expression the combined triumphs of the past,  
establishing new standards in air transportation and setting a true course

for the designers and builders of the future



THIS IS LOCKHEED LEADERSHIP

## *The Constellation*

*Highest speed of any transport—exceeding at more than 300 m. p. h.*

*Longest range of any transport—non-stop coast to coast*

*Biggest load-carrying capacity of any transport—64 passengers, crew and cargo*

*Greatest rate of climb of any transport—can clear in a minute on four engines*

AND these performance factors make the Constellation the safest of any transport.

# THE Constellation

WHAT IT WILL PROVIDE THE AIRLINES AND  
AIR TRAVELERS OF THE WORLD

THE CONSTELLATION will bring greater economy to air travel, because its high speed, big payload and low fuel consumption will mean lower operating costs for airlines.

It will provide the convenience of great versatility to airline operations, because its unsurpassed performance and economy on short and medium distance as well as long range flights make it suitable for different types of airline schedules. It can take off or land in any standard airport.

Of course the cabin appointments will be luxurious. Since the cabin is pressurized and has efficient heating or cooling, passengers can ride in comfort in the Constellation's smooth flying altitude of 20,000 feet.

There are more safety devices on the Constellation than on any other plane we know about, but beyond more important than these—in safety lies its performance... its ability to fly over, or around, or away from, adverse weather.



FOR NEW STANDARDS IN AIR TRANSPORTATION  
LOOK TO *Lockheed* FOR LEADERSHIP

Lockheed Aircraft Corporation, Burbank, California

## THE AIR WAR

### COMMENTARY

## Rocket, Robot, Radio Developments Bring Revisions in Air Tactics

Rocket-powered planes, capable of 500 mph, expected to set pace over battlefields of Europe shortly; reprints of pilotedless plane carrying eight- or ten-ton bomb given Britain new worries; radar progress continues.

Although the rocket was used as a military weapon some seven centuries ago by the Chinese against the Tartars, and from time to time ever since, it is only during the past couple of years that it has come to take its place as an outstanding weapon in its own right. Rocket-propelled armament in aircraft was used by the British in World War I for close range attacks on observation balloons and Zeppelin airships.

During the next 25 years the British continued experiments in this field, developing two types of head, the solid 25-pound shot and the explosive delayed action 60-pound shell.

However, the Russians seem to have been the first to use aircraft rocket projectiles fitted with explosive charges in the war, in the winter of 1941-42 on the Shennikov assault plane IL-2, and later on the IL-3 and 4, and the MIG-3, YAK-1 and LAGG-3 fighters, they were used almost exclusively against ground objectives.

**Air-to-Air Weapons**—Early last autumn the Luftwaffe unleashed rocket-firing FW-190's, ME-109's and 110's against the increasingly effective daylight Mustangs of the Eighth Air Force. For a time they made these missions more costly, but not one was turned back, and as our long-range escort strength

of Mustangs, Thunderbolts and Lightnings was built up, the new threat was largely neutralized. It is not improbable, however, that the threat will be revived even more furiously if the war in the west should drag on long enough to permit the new rocket-propelled and jet-propelled fighters to appear in considerable numbers. Their great speed would enable them to penetrate fighter escort, and in among our heavy bomber formations, hit by their rockets and streak off in a flash.

**U. S. and British Developments**—Although not recently announced, for some time the Royal Air Force (especially Coastal Command) and the American Army and Navy Air Forces have been using RP's (rocket projectiles). British RP aircraft include the Hurricane, Typhoon, Beaufighter and the obsolete Anson of the Fleet Air Arm. The British practice is to fit four launchers under each wing, being in the form of racks, something like the rails used by the Russians. American Naval types include Douglas Dauntless (SDS), dive bombers and Grumman Avenger (TBF) torpedo bombers, with improved type launchers currently being applied to Corsair (F4U, PG-1) and Hellcat (HRF) fighters, Mitchell (SB2C-3) dive bombers and Lockheed PV-3 search bombers.

Army Air Force RP fighters in-



ROCKET GUNS USED IN CONQUEST OF SAIPAN

The day after American troops landed on Saipan, a rocket-equipped Thunderbolt appeared, strafing and blasting enemy gun emplacements. The rockets proved a great help in clearing out the Japs en-



trrenched in caves and in destroying ground objectives. Movie camera shots show one of six rockets being fired from rack under wing. Other pictures show soldier loading under-wing rocket tube.

## Here's What You Get in Hartwell Stainless Steel Swaged Terminals:



**1 SHANK TENSILE STRENGTH WELL IN EXCESS OF BEARING STRENGTH REQUIREMENTS, AND DISTORTION IN FULL TEST FAR BELOW SPOKEFAST ALLOWANCE.** This is assured by a new nonfusing technique developed by Hartwell.



**2 IMPROVED SWAGING QUALITIES.** The process by which the tensile strength of the shank is increased in no way impairs the swageability of the terminal.



**3 CONCENTRICITY KEPT WELL WITHIN BLUEPRINT TOLERANCES.** Uniform wall thickness is maintained for the full length of swaging end. This assures perfect swaging; eliminates the danger of cable or terminal failure due to uneven stresses.



**4 CAREFULLY MAINTAINED THREAD TOLERANCES.** Automatic threading equipment, plus 100% inspection, assures a perfect thread so necessary on these highly stressed parts.



**5 COMPLETE LINE.** Hartwell terminals are available in the following series: AN667, 3-6, inclusive; AN668, 3-6, inclusive; AN559, 3-6, inclusive, shafts and lugs, right and left. All terminals are passivated by the hot process; AN-T2a specification.



**6 MADE RIGHT AND SHIPPED RIGHT.** Packed in die-cut cartons, Hartwell terminals are protected from our inspection line to your production line. Packaging facilities handling

Single source for 772 different aircraft production parts and tools

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clude Mustangs, Thunderbolts in the CRI theater, and the two later in the South and Central Theatres. The American practice is to mount a cluster of three linechairs, known as the M-16, under each wing, which can be jettisoned after the rockets are fired. Rockets used are the M-4, a 4.5-foot projectile weighing just under 40 pounds, with an effect equal to that of the 105-mm howitzer. The M-16 also may be used on such attack bombers as the Mitchell and Raven.

AAF's Triple-Threat-In Burma and China, Mustangs have been featured in a particularly deadly tactical innovation. Used as shallow single drive boosters, they stream down and blast a ground objective, then launch the rockets and finally let loose a chatter of 36-caliber machine gun fire. In addition to its demoralizing effect the rocket spreads incendiary flames and hot metallic shrapnel which set fire to everything inflammable, making it particularly effective against gasoline storage tanks, ammunition dumps and war houses. A single fighter pilot flying a Thunderbolt with six eight 36-cal. guns and six rockets has the firepower of six armed forces tank-busters, and far greater mobility.

**Rocket Propulsion.** So much for the rocket as armament. With its greatest triumphs to be expected in the Pacific-Pacific war, the Navy program alone is going into almost fantastic proportions. The rocket-propelled airplane, however, is likely to gain an even larger share of the spotlight during the next few months. The M-16 has been definitely identified and announced as its action, and other rocket or jet-propelled types are currently well on the way. The M-16 is rocket-propelled, not jet, using its power in spurts as required, which increases its endurance. Climb is said to be remarkably fast, and top-speed in the vicinity of 400 mph.

Both the Mustang and Thunderbolt can do better than 425 mph with "war emergency power" and neither of them could overtake the newly encountered M-16. Changing a new and potentially dangerous type of enemy aircraft could rank as a "war emergency," so it may be assumed that these pilots gave it everything they had. As previously indicated, swarms of these and better models, now in limited production, could become a genuine menace and threat to our air supremacy over the continent.

### AAF Films Click

American combat photography is so much a part of the life of the British that *Flight*, British aviators' magazine, is moved to sharp comment on the contrast between combat pictures of the two services.

Observing of photographic evidence in aerial combat is a little trick. The Americans learned from the British in the Battle of Britain, says *Flight*, but the Americans have gone far beyond anything turned out by the RAF. RAF shots give only a "massy" outline while AAF shots have a "definite photographic quality" and a "large proportion of them are taken in natural colors."

The American camera, *Flight* declares, takes its picture in second, which are screened at 16 pictures a second to produce lenses "have finding then appearing Hollywood over-produced."

**Rockets and Rockets.** Last summer Allied photographic reconnaissance began paying special attention to a series of unexplained installations on the Pacific-California coast. Comparison with similar structures photographed at Peenemunde, research and experimental center for rockets and jets, identified these sites as designed to launch flying bombs in the direction of London. RAF and AAF heavy bombers bombed Peenemunde, and attacked the heavy launching area from time to time during the autumn, a huge attack on Christmas Eve being remembered in such a way that the nature of the target was indicated, and an elaborate train of speculation set off. During the two months since their appearance on the horizon, caused by the V-1 Robot Flying Bomb has been greater than we believed possible at first. Defense includes radio warning of the threat, use of balloons, anti-aircraft artillery fire and the fastest fighters in the RAF-AAF stable. These include the Mustang, the Thunderbolt, the Griffling, the Spitfire and the new Hawker Tempest, and to be the best of the lot for this job, hazardous at best owing to the great danger of the bomb's explosion destroying the pursuing fighter.

The defense would be to destroy the launching sites, and many of them have been, but modified and cleverly camouflaged sites are also being used, as well

as quickly erected portable launching platforms. Peenemunde has been heavily attacked by AAF bombers, and despite the loss of robots, have also been bombed. England is now under the dread of V-3, reported to be a huge rocket bomb containing 8 to 10 or more tons of explosives and with a range almost as great as many British industrial cities. The flying bomb has arrived too late to effect the course of the present war, but it may be noted as the most sinister and revolutionary weapon developed to date, with immense military and political significance for the future.

**Radio in War and Peace.** In the field of communications, vital in the land, sea and air operations, the contribution of radio will provide one of the most fascinating, and is the long run one of the most profitable stories of the entire war. Ground-to-ground, under the sea, within the air, air-to-air, intercommunication, navigational aids, radio command, direction finder, instrument landing—these are some of the most vital and, as yet, largely unexplored under the stress of war, and some of them will revolutionize the future.

One of the most interesting and vital developments of all is still almost wholly under wraps—radio-detection-and-ranging, or Radar. A year or two ago a good deal was written on this subject, probably too much, and at the time it was not clear what the policy surrounding it which is not warranted from a scientific standpoint, however necessary it may be to guard certain military aspects. Many of its applications, for friend or foe alike, are well known. These include early warning of approach of aircraft, including approximate distance away, altitude and speed; identification as to friendly or hostile; ground-controlled interception; bombing from high or low altitude through overcast, gun-fire control, search techniques, navigational aids and emergency rescue. The applications of all this for the air future are not only obvious but enormous.

—NAVIGATION

### 317th Wing Moved

Headquarters of the 317th Wing at the Fourth Air Force, controlled by the Western Division, is now commanded by Col. J. C. Cronkwaite, have been transferred from Richmond, Ore., to Salem, Ore. AAF sources reveal.

## PERSONNEL



James L. Straight has been appointed manager of the Los Angeles office of the Aircraft Manufacturers Council, a new and the parent organization, the Aeronautical Chamber of Commerce. Straight has managed as director of the production division of the Aircraft War Production Council, where he has served for two years. He coordinated the work of the technical committees of AWPC, West Coast, including the production engineering committee's development of a nationally recognized manpower stationery survey system. As Los Angeles office manager for the Council and the Chamber, Straight will coordinate industry activities of the western aircraft companies in dealing with transition problems as well as technical matters.



J. P. Page (photo) has been appointed treasurer of Consolidated Valve Aircraft Corp's Louisville Division. Page, formerly treasurer at General's Manufacturing Co., New York City, N. Y., joined the Louisville plant of the company. H. B. Fawcett, who resigned before starting with the corporation, at the Louisville division in April, 1940, Page was assigned to the Louisville plant of the company. Page later Co., New York City.

W. Bruce MacNamee, until recently public relations director of the Airlines Committee for U. S. Air Policy, has joined the Washington staff of National Federation of American Shoppers.



Robert F. McKee has been named maintenance engineer for Continental Air Lines. McKee, a young Continental from Transcontinental and Western Air, Inc., with whom he served as an aircraft engineer. Prior to that he served with the U. S. Engineers as a field engineer in a field of aircraft construction on army fields. His duties with Continental will include

full responsibility for all drafting, weight and balance control, repair and alteration changes and forms, and various engineering reports.

Vice Admiral Aubrey W. Fitch has formally assumed duty as deputy chief of Naval Operations (AOP) succeeding Vice Admiral John S. McCain. Announcement of the change was made earlier in the year. Admiral Fitch has been given an assignment at sea. He has been on a special assignment in the Pacific recently, during which time Rear Admiral Arthur W. Radford acted as deputy chief of Naval Operations (AOP).



Perry D. Heber (photo), formerly chief of the Magnesium Branch of the War Production Board in Washington, has been selected as secretary-director of the newly formed Magnesium Association, with headquarters at 30 Rockefeller Plaza, New York. R. A. Christensen, vice-president of Agnew Steeling Co., Chicago, is president. C. G. Leeson, president of New England Iron Co., Boston, Mass., is vice-president. H. L. Indiana, manager of operations of White Metal Rolling and Stamping Co., Brooklyn, is treasurer.



Charles J. Hodges has assumed duties as director of industrial relations of Republic Aviation Corp. He has been personal relations manager and assistant director of industrial relations at the Springfield, Ind., plant of Republic. Hodges previously was assistant personnel director for United Airlines and for Bendix Aviation at their South Bend plant.

E. Randall Irwin, director of industrial relations research department of the Aeronautical Chamber of Commerce, Washington, and assistant to the vice-president of Lockheed Aircraft Corp., has been awarded the Distinguished Civilian Service Award by Undersecretary of the Navy Ralph A. Bore, for outstanding work as a member of the Navy Manpower Survey Board.



Leonard C. Mallat has been elected general manager of Pratt & Whitney Aircraft Corp. of Massena, Mallat, vice-president and assistant general manager of the Missouri corporation since 1942, succeeded Frederick H. Bauman, who has resigned to join the Bakerly Division of United Aircraft Corp. Donald T. Riley, vice-president and a director of Canadian Pratt & Whitney Aircraft Co., Ltd., has been elected a vice-president and director and named assistant general manager of the Missouri corporation.

William F. Underwood, vice president of Southern Airways, Inc., and manager of its Atlanta operation, has been called to active duty with the Army Air Forces, South Air Force unit, 20th Ferrying Group, at Nashville. Ike F. Jones, vice president in charge of Southern Airways' South Carolina operations, with headquarters at Camden, where Southern operated an AAF primary contract pilot school, has taken over the Atlanta management temporarily.

V. B. Trone, assistant chief of structures section of the research laboratory of Curtiss-Wright Corp's Airplane Division, has been appointed chairman of the Hydrodynamics and Performance Subcommittee of National Aircraft Standards Committee.

An activity of the Aircraft Standards Committee of Commerce. He succeeds Harry Knappe of Glenn L. Martin Co. The subcommittee is active in reviewing and recommending changes to the Army and Navy Aeronautical Standards on Aircraft Hydrodynamic Equipment, and works in close cooperation with the Society of Automotive Engineers Hydrodynamic Subcommittee, of which Trone is also chairman.

Mrs. Marguerite Jacobs Hiron, confirmed by many the best informed authority on U. S. Army aviation history, was presented a Civilian Distinguished Merit Award by Brig. Gen. Kenneth B. Wolfe, AAF Materiel Command chief. The award was made at Wright Field where Mrs. Hiron is a special assistant to the chief of the public relations sec-



**Will you be the one to discover this new DAZOR Floating LAMP for your plant?**



Think of a lamp that floats the light exactly where it's wanted, as easily as a man can move his arm... a lamp that stays put without locking... that brings new efficiency to localized lighting, thus increasing production and lowering costs.



LOOK at the DAZOR Floating Lamp because it's new and different. But look too at its possibilities for the advantages it offers your increased output, employee convenience, unproved accuracy and safety.



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Builders,  
Operators—You  
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These Facts About...

# “FLYING HORSEPOWER”



➤ This sensational new super fuel development is the result of 11 years of Socony-Vacuum research in Catalytic Cracking and multiple developments, climaxed by the famous TCC Process and the Magic Bead Catalyst.

➤ “Flying Horsepower” is now flowing to U. S. warplanes from 19 great Socony-Vacuum Catalytic Cracking units.

➤ This represents the greatest Catalytic Cracking Program in the world, a \$90,000,000 investment in new refining facilities.

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During more 75 years' lubrication experience, Socony-Vacuum has developed a new super Mobil oil Aero for aircraft use, to serve as a running coat for the new Mobilgas. In operational flights covering thousands of air-hours, this new oil has proved its unique fuel-saving qualities. The outstanding feature is its resistance to ring-clogging deposits.



Get the Facts on **Mobilgas-Mobiloil Aero**

tion. Back in the flying twenties, when early Army test pilots were flying the several thousand for today's warplanes at old McCook Field, Dayton, she began writing stories about them and about the Army's aviation developments. Mrs. Haisel is the author of a biography of the Wright brothers and a close



friend of Orville Wright. Her stories of early McCook Field days, published in book form, are one of the best records of that time and she has contributed numerous articles to national magazines and publications. In preserving the record, General Wolfe said it was "for her ability, loyalty and devotion to serving in the public relations office for more than 25 years." Mrs. Haisel had been recommended by the award by Maj Gen Charles S. Burnham, former chief of the command.



**Catalogues Planes:** Cataloguing specifications for 35,000 different modern aircraft—including 25,000 photographs and drawings—has been started in Los Angeles by D. D. Haisel, an engineer for Fairchild Aerial Surveys, Inc.

## Lists Specifications Of World's Planes

Count Engineer's catalogue of photos and drawings of all aircraft in history of flying expected to fill 60 volumes

Probably the most complete library of condensed aircraft specifications, photographs, drawings and chronology ever attempted is being completed on the West Coast by D. D. Haisel of Los Angeles, engineer, employed by Fairchild Aerial Surveys, Inc.

To date he has listed specifications covering approximately 10,000 separate types of aircraft of all nations and possesses 25,000 negatives of aircraft photographs in addition to which he has an equal number of negatives of aircraft drawings and engines.

**Historic Sketches:** A large percentage of his specification sheets covers models of aircraft proposed and sketched by historic theorists and many designs that, while developed to the point of flight by obscure inventors, failed to reach production success.

A large proportion of the specifications covers design variations of the production models of American and foreign fighters. Mr. Haisel has been compiling the library since 1921.

**Photographic Copies:** Haisel currently is engaged in the photographic copying of his original lists for assembly into volumes and, planning presentation of a limited number of sets to interested museums. He also is preparing for Los Angeles Public Library file prints of his 25,000 aircraft negatives, each carrying a condensed description of the airplane or lighter-than-air craft shown.

He says his specification sheets will fill sixty 1,000-page volumes while other volumes will carry supplementary data: lighter-than-air, three volumes; engines, eight volumes; instruments, three volumes; airplane construction, four volumes; engine accessories, four volumes; aircraft equipment, three volumes; airports and airways, four volumes; aviation chronology, six volumes; aviation biographies, eight volumes; manufacturers, six volumes; aircraft special uses, three volumes; engineering, four volumes; transportation, four volumes; navigation, three volumes; and miscellaneous subjects, two volumes.

## TELLING THE WORLD



• Ragnor M. Combs, Jr., who was with Brown, Wooley & Co. for five years, has joined the United States Aircraft Corp. as vice president in charge of American Airlines, Inc. Combs was assistant executive on the Air Transport Association account, having helped organize that joint advertising effort of all U. S. airlines over aircraft manufacturers. Combs also headed the air express division of Railway Express Agency, Kalleberg Aircraft Instruments and Republic Aviation's P-47 Thunderbolt advertisement.

• Publicity of Canadian Pacific Air Lines, subsidiary of Canadian Press, has been suspended for the time being on orders from the Montreal office. The CPA monthly blunder, employee magazine, was suspended some months ago and news of airline personnel now appears in the CPA staff monthly. The publicity organization of CPA is understood to have been abandoned by the CPA publicity department.

• War Department bureau of public relations in Washington prepares news and picture of Army activities toward regularly and prepared especially for use by business papers. Maj Gen W. Moore is chief of the publications branch which performs this service.

• Jay E. Miller, main promotion manager industrial products and sundries division of the D. F. Goodrich Co., has been named advertising manager of the division.

• An Army Air Force Signal Corps training film and from Culver City, Calif., has been working with airplane engine as a film showing latest employment of gliders.

• Miles Conry, formerly sales assistant city editor for the Los Angeles Examiner, has joined public relations of Northrup Aircraft, Inc. A new Training Devices Catalog, which contains pertinent data on standard training devices is being distributed to Army Air Force personnel. There are four dual aircraft companies of more than 100 different subject classified devices. It supersedes the Synthetic Devices Catalog.

• John E. C. Moore is editor of the new Radio Engineers' Digest which published its first issue August, 1944. The monthly magazine contains reprints from other aviation magazines, aeronautical field. Editorial offices are at 290 Pearl Street, Brooklyn.



ALUMINUM'S "TORE OF EMERGENCY"—some Reynolds' great plant at Lorain, Mo., millions of pounds of aluminum ingots used their work. Thousands into sheets for airplane wings, full to provide supplies, thousands of other uses. Reynolds has rolled some high-grade aluminum than any other company.

## REYNOLDS ALUMINUM:

A shortage turns into abundance...and America gets more efficient weapons

WHEN warlike American planes crossed over Europe's sky, they thundered out the message that this war was to be a war of high speed-of-shooting.

At that time, Germany was making deep inroads upon aluminum in the United States. This was a plan coming of part to America. Hearing it, Reynolds Aluminum went into action. On its own resources, Reynolds set up huge new aluminum plants... moved the light to lead a change of aluminum that could be done for the war effort.

Today, the success of this struggle is apparent as one great fact of America's aluminum production... output is more now than enough to fulfill minimum war needs—that is, aluminum for our growing needs of warplanes.

The hard-won abundance of this vital metal means that aluminum can now be applied to dozens of uses where aluminum ingots would have been a scarce efficient weapon for itself.

leading metal, plus housing, gasoline, casing, hundreds of other war uses.

"THE FUTURE THAT COUNTS MOST"

Reynolds has its place, and its definite progress for permanent application of aluminum's usage to hundreds of new uses. And the rest of Reynolds has been taken in hand the words of Robert P. Patterson, Under Secretary of War... "The future that counts most," and Mr. Patterson recently, "in that stretch of time between this day and that day on which the last shot of the war will be fired."

"Aluminum, alone of the three most needed metals, is meeting production schedules on military requirements; but for any of us to interpret this as a signal to take it easy is an error. Our appreciation to serve our fighting men can be as individual as it is our debt to them for what they do."

Reynolds intends to meet this challenge—to produce, in its 40 plants, for "the future that counts most."



WEAPON OF AIRBORNE EVASION—mild bending metal, potent weapons of attack, are now made of tough aluminum alloy, strong enough to withstand the force of gun hammer.

REYNOLDS METAL CO., Aluminum and Pits Div., Lorain, Mo., U.S.A.



## AIRCRAFT PRODUCTION

### Labor Shift to Pre-War Jobs To Cushion Plane Plant Cutbacks

Industry expects fully 50 percent of aircraft workers to return to regular employment and to household tasks as soon as their help is no longer essential to war production.

The normal manpower turnover in the aircraft industry is expected to cushion the employment impact of contract terminations, abrupt as they doubtless will be to some extent.

This situation is pointed up in the West Coast aircraft industry where seven major aircraft companies, employing approximately 265,000 workers, lost 19,966 in normal separations during June. For the first six months of 1944, the aircraft industry on the Pacific coast recorded a "quit work" loss of 12,518 persons or an average of 12,518 a month.

**Stay-on-the-job Campaigns**—At the moment, all companies are conducting "stay-on-the-job" campaigns, bolstered by warnings from Washington of a lag in production which could have serious repercussions on the fighting fronts. But should it become necessary for the plants at some future date to cut overall employment sharply, the

manpower crisis presumably would be greatly increased by a halt in the "stay-on-the-job" campaigns.

Another factor in the situation which would have an effect on the overall picture is the constant employment now being carried on by the companies to balance the normal monthly operations. By halting this employment, a considerable number of workers would be affected and some companies believe they might be able to weather staggered contract terminations without having to resort to actual discharge of any sizable number of employees.

**Returns to Pre-War Jobs**—Some company officials believe that up to 50 percent of their present workers will want to leave aircraft work voluntarily and return to their pre-war jobs when assured that their work is no longer necessary to war production.

Currently, there is a manpower shortage on the West Coast, the



#### AAF MATERIEL CHIEFS:

Major Otto R. R. Meyers, deputy commander of the AAF Air Materiel Service, and Lieut. Gen. William S. Knudsen, commanding general of the new organization which resulted from the merger of the Air Service Command and the Materiel Command, are shown at headquarters at Dayton shortly after General Knudsen took over his new assignment.

Aircraft War Production Council citing a secondary need for 3,000 workers over and above those hired to replace quits. While aircraft production has been slightly off schedule the past two months, it has generally held up well and most-needed tactical types have been delivered. Production officials are not concerned over the



## ACCURACY TODAY

**TODAY...** the creative ability of Honeywell engineers is devoted entirely to providing war-winning computers, and like produced such outstanding contributions as the Electronic Autopilot, the Electronic Turbo Supercharge Control System and many others.

**TOMORROW**, when Victory is won, this same creative engineering will be ready for peacetime aeronautical problems. In the Minneapolis-Honeywell known and test laboratories one of the largest of its type ever built—are being conducted tests and performance records that will lead to bigger and better designs for peacetime aviation. Yes, Honeywell is in the aeronautical control field to stay. Minneapolis-Honeywell Engine Company, 2947 Fourth Ave. S., Minneapolis 6, Minnesota.

## SAFETY TOMORROW



#### B-29 AND 10,000TH KAYDET PRODUCED AT BOEING-WICHITA

The 10,000th Kaydet Primary trainer and a B-29 Superfortress, both produced by Boeing Wichita, are delivered to the Army. The two planes were accepted for delivery by Brig. Gen. Ray G. Harris, supervisor of the western procurement division. Left to

right are A. W. Schapp, assistant works manager, J. E. Schorfer, vice-president and Wichita general manager; Harold Zipp, chief engineer; T. C. Pitts, factory superintendent; Gen. Harris, Bernard Taylor, factory superintendent, H. F. Brown, works manager.

MINNEAPOLIS  
**Honeywell**  
CONTROL SYSTEMS

Makers of the famous M.H. Electronic Autopilot and an AAF four engine bomber

THIS LOOKED PRETTIER



BUT THIS  
SPEEDED  
AIRCRAFT  
PRODUCTION  
35%

## RYAN FLOW PRODUCTION

Ryan has brought the method of volume manufacture known as FLOW PRODUCTION to a high state of perfection. It is, at Ryan, the guiding policy of ALL production.

To speed war production of vitally needed planes and assemblies, Ryan has developed many outstanding time and money-saving techniques. Having demonstrated in wartime its farighted production methods and specialized engineering ability, Ryan looks forward to the peacetime challenge to its ingenuity and skill.

### THE PROBLEM

Aircraft plants usually grouped in separate areas, often hundreds of yards apart, all under watchmen—parks and drill patterns, twisting equipment, ladders, belt transfer systems, primitive methods, no Ryan's production engineers found that one particular part alone, as engine manifold water service, was needed back and forth between these groups of workers, nearly a mile before its completion.

### THE SOLUTION

This waste of time and wastage of money in "backtracking" was eliminated by the simple expedient of grouping the machine to the job. At Ryan, machines were rigidly grouped and skilled craftsmen who ever a man-hour on a few feet of wasted motion could be saved. For example, a manifold water service, that formerly traveled 1,000 feet, here completed, now travels only 2,500 feet.

### THE ADVANTAGE

Today the obvious advantage of this typical saving in all production operations results in the elimination of millions of feet of unnecessary handling in a year—a direct saving of unexpected money. The benefits of FLOW PRODUCTION at Ryan are now producing for the military services and other companies and are passed on to all service members, through industry coordinating agencies.



RYAN  
AIRPLANES

Ryan Aeronautical Company, San Diego—Headquarters, Aircraft War Production Council, Inc.  
Designers and Builders of Consistent Type Airplanes and Exhaust Marshall Systems



ing and believe the industry can well meet the new stabilized production rate of around 8,000 planes a month. Manpower is not the problem that it was a few months ago in the aircraft industry, although more workers are needed.

**Stabilizing Factor**—A labor stabilizing factor in the West Coast industry is the fact that employees' productivity, which has decreased 43.84 percent in the past year, is believed to be approaching a peak.

Since August 1943, and through June 1944, West Coast companies have reduced total employment from 304,000 to 245,000, while increasing production from 36,000,000 pounds in August 1943, to 33,000,000 pounds during June of this year. The totals indicate a production increase of 24.23 percent and employment decrease of 19.41.

## Willys Output Up

An increase of approximately 38 percent in production of landing gear for the Navy's Grumman fighters during the past six months is reported by Willys-Overland Motors.

Company officials attributed much of the increase to substitution of arc-welding for gas-welding in joining tube sections of the landing gear. This method not only has proved much faster at Willys-Overland, but has saved the time formerly required to straighten tubing warped by excessive heat generated by gas-welding.

More than 3,000 sets of this precision equipment have been turned out without a failure.



## BELL 'COBRA' PRODUCTION

While the Bell P-39 Kingcobra, swift new fighter plane, is engineering its famed predecessor, the P-39 in Russian action, both planes are still being manufactured at Bell's Niagara Frontier division, Buffalo. The P-39s are shown above on the first two assembly lines, while the Kingcobras, now in quantity production, pack the next three.

## Form Reconversion Engineering Group

Formation of an integrated manufacturing engineering, market analysis and production development service to aid reconversion projects has been announced by Dehnert & Lippincott, a division of Douglas T. Sterling Co.

The group, headed by J. Gordon Lippincott, is offering to manufacturers of all sizes and types not only product styling or redesign of old products, but suggestions for new products adaptable to existing facilities and materials experience in addition to market analysis and merchandising guidance.

**Toured War Plans**—Gilbert J. Merrill, business manager of Dehnert & Lippincott recently completed a five-month tour of war plans, discussing reconversion plans with business executives and members of trade associations and chambers of commerce. Director of aeronautical research for the firm is C. B. F. Merrill, aviation technical writer and editor.

## Plane Output Leads

Although aircraft is no longer the major expanding product in the output of manufacturers, it still accounts for the largest single share of war production.

WPA Chairman Donald Nelson



## NEW P-43 REPLACES AIRACOBRA

Bell's new P-43 Kingcobra is replacing its predecessor, the P-39 Airacobra, in action in Russia. Pictured above, in the foreground is the fast new fighter, with an Airacobra in the background. The Kingcobras has

a far greater combat range and considerably more speed. It is powered by the new two-stage Allison 1,550 hp V-12 liquid-cooled engine. Lines are available, marked by the low-drop laminar flow wing.



#### FORD BUILDS MECHANIZED COMPASS ROSE

To speed electronic, radio and compass checks necessary for instrument construction, Ford engineers at the Willow Run bomber plant have mechanized its compass rose so that each plane is turned on a turntable instead of being moved under its own power or by an auxiliary power source. The 2,000th Ford-built B-24 Liberator is shown taking its turn on the turntable compass rose, believed to be the only one of its kind in the country.

reports Jase output of airframes, engines, propellers, spare parts, gliders, etc. amounted to \$4,669,400,000, close to 31 percent of all munitions production. For the first half of the year, aircraft accounted for more than 30 percent of the six-month total—\$5,254,000,000 out of \$17,270,900,000.

#### GM in Production on New P & W Engine

First of the Chevrolet-built Pratt & Whitney R-2800-C engines has been produced by the General Motors Division. Tooling and production of the first engine was accomplished in five months, 18 days, the company said.

The 18-cylinder P & W engine is being produced by the GM division in addition to the 14-cylinder P & W it has been building for several years. Assembly of the engines will be concentrated in the North Tonawanda (N. Y.) plant, where a new facility was built to house the assembly line.

#### C-87 Order Finished

Fort Worth division of Consolidated Vultee Inc. has built its final C-87 Liberator Express, construction of which is being moved to Convair's San Diego division.

Meanwhile, construction of B-24 Liberators is continuing as scheduled and Fort Worth workers are turning their attention to "more and bigger planes" according to Harry Woodhead, Convair president.

He explained that not only is B-24 production continuing, but that "work is in progress on three equally large or larger planes" which include heavy bombers.

#### New Edison Magneto Saves Planes 6 Lbs.

A new aircraft magneto, reported more than six pounds lighter than others of the same capacity, is announced by the Edison-Sperry division of Thomas A. Edison, Inc.

A. J. Clark, vice-president and general manager, said the magneto has been in service for some time, but that announcement has just now been permitted and that the instrument is installed as standard equipment on a number of combat aircraft.

► **Weight Nine Pounds**—Experimentation and research made it possible to limit the weight of the instrument to approximately nine pounds without sacrificing any of the electrical output, mechanical strength or all-around efficiency. This was accomplished without use of any light metals other than aluminum.

The Edison aircraft magneto is of the rotating magnet type.

#### Fairchild Changeover

Production of the Fairchild AT-21 Gunner at Burlington, N. C., now in its final stages, will be speeded to completion to prepare for production of components for

the Fairchild C-82 cargo carrier. The AT-21 is largely a wooden ship, and the changeover to metal work at Burlington will require extensive changes, as well as a retraining program for employees in the Carolina plant. In addition, much of the woodwork used in the C-82, a large two-engine cargo plane of original Fairchild design, will be done at Burlington.

The C-82 is expected to be in production before the end of the year, and will be built chiefly at the Fairchild Hagerstown (Md.) plant.

#### Test Flight Time On B-24's Reduced

With the dynasty of the 1,000th B-24 Liberator from Willow Run, test crews there had flown these Consolidated Vultee bombers 15,499 hours and covered a total of 3,068,106 ground miles since production was started at the plant.

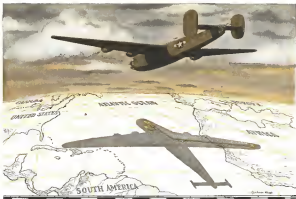
A gradual reduction in hours compared with an increase in production also was shown in the records of the test pilots and flight operations crews. During 1943 a total of 297 hours and 40 minutes was flown. The first B-24 was accepted by the AAF on Sept. 30 of that year. During 1943, a total of 4,524 hours and 45 minutes was flown. During the first half of 1944, when half of Willow Run's production was achieved, test crews flew only about half as many hours as they had during the previous years.

► **Flight Tests Reduced**—More than half of Willow Run dynamos are accepted by the Army after their first flight and 4,884 flights were made this year as against half of the flywheels, as compared with 7,583 in the preceding year. Beginning in July, all Willow Run planes were flywheels.

#### Labor Demand Eases

Recent changes in Selective Training regulations due to increased requirements make it no longer necessary to continue the Manning Table Plan which has served as a basis for the orderly withdrawal of workers from war industries into the armed forces at the same time replacement schedules for induction of men are being permitted to expire.

► **Main Objective Attained**—Paul V. McNair, chairman of the War Relocation Commission, said the plan had fulfilled its primary objective of permitting replacement of war workers scheduled for in-



## Sperry Gyrosyn Compass

### The Directional Gyro with Magnetic "Sense"

See diagram on shadow of map above.



Accurate! Reliable! Light Weight! Low Maintenance!

The Sperry Gyrosyn Compass is a directional gyro synchronized with the earth's magnetic field.

It combines the functions of both a Directional Gyro and a Magnetic Compass. Accurate navigation, accurate magnetic heading... without normally running error or resetting.

The Gyrosyn Compass is an electrically driven directional gyro precisely controlled by a Flare Valve to indicate magnetic heading directly or through Repetitors.

The Flare Valve is a device for detecting the direction of the earth's magnetic field. Its design provides light weight, accurate heading, and small size for rapid mounting in the wing tip. It has no rotating parts.

The Gyrosyn Compass weighs only 30 pounds including one Repetitor. Provision is made for additional Repetitors and for furnishing aircraft substitution required by any other equipment.

## Sperry Gyroscope Company

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#### NEW GUN CAMERA INSTALLATIONS:

Newly released photos from AAF Materiel Command at Wright Field show details of gun camera installations in fighter planes. Above, on the left an armament laboratory technician installs a gun camera in the wing of a Republic P-47 Thunderbolt. The camera, loaded with 2,000-exposure roll of 16 mm film, and weighs only 3½ pounds, is or will be standard equipment on all D-5 fighter planes. The other photo at right shows new installation of the gun camera in among the gear of a Lockheed P-38 Lightning. The camera is aligned with the gun-sights to record hits and misses in aerial combat. The camera now designed by Fairchild Camera Corp., Bell & Howell Co., the Materiel Command.

disturb on a regular timetable so as not to retard production.

He added that many employers will continue to use the personnel inventory principle embodied in the Manning Table Plan, as an aid in attaining fuller manpower utilization and improving personnel practices.

#### New Safety Rafts for Liberators

Consolidated Vultee has developed details of a life-saving device now incorporated in B-24 Liberators, a semi-circular container designed to hold a five-man life-raft, placed in the upper portion of the plane.

The containers are held in place by streamlined coverings during normal operations, while controls located inside and outside the plane enable crewmen to release the rafts in the event of an emergency water landing.

**Weld By Cord**—A cable out-pressure spring provides power for throwing the raft out of the plane and 20-foot cords prevent the rafts from drifting away from the plane before crewmen can get aboard. Safety locks prevent accidental or premature release of the rafts. Each plane has two rafts.

#### Wilson Asks Pay for Idle Plane Workers

WPA official urges unemployment compensation and retraining program for aircraft jobs in case of curbs.

A broadly conceived system of unemployment compensation rather than "special privilege in the form of dismissal pay" to a restricted group is strongly recommended by Charles E. Wilson, executive vice-chairman of the War Production Board, in his statement to the Murray War Contracts Subcommittee of the Senate Military Affairs Committee.

This phase of the demobilization program is expected to be one of the most bitterly fought provisions of legislation that will stem from the Murray hearings under the accelerated congressional program. **Asks Uniform Treatment**—"It is my feeling that employees released from warplane production," Mr. Wilson said, "or for that matter from any war plant, should not be treated differently from any worker that becomes unemployed. In our complex industrial civilization the individual employee has so little control over the loss or retention of his job that there is no reason to treat workers who lose their jobs directly as a result

of cutbacks in war production schedules differently from others that may lose them as an indirect effect of such cutbacks or as a result of an overall decline in national production that may be caused by the curtailment of war production.

"In all these cases adequate provision should be made to permit the discharged worker and his family to continue to live at a minimum standard of decency and to prevent a disastrous shrinkage of mass purchasing power. The answer to curbs-by-layoff is not special privilege in the form of dismissal pay but a broadly conceived system of unemployment compensation."

Wilson also recommends payment of transportation expenses and a large-scale retraining program within industries offering work opportunities.

His program parallels that of the Aeronautical Chamber of Commerce.

#### Douglas Tulsa Plant Starts on A-26's

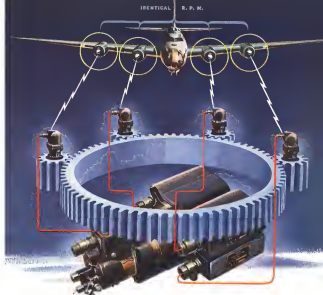
Douglas Tulsa plant has completed its B-24 Liberator program and turned to production of the A-26 as a schedule which calls for 44 percent more planes next month and an additional 46 percent the month following.

W. G. Jenkins, plant manager, said the first bomber assembled in the plant required the use of 122 man hours per pound of air-plane and when the 250th plane was delivered the figure was reduced to two man hours per pound. Airplane No. 199 required only three-fourths man hours per pound and he estimated that the final B-24 required only one-half man hours per pound.

#### Ice Warning Device

A new, streamlined, self-contained device to warn flying crews of icing conditions has been developed at the request of the Navy by the Fleet Instrument Division of Bendix Aviation Corp.

The device, a humidity indicator using krypton gas as an actuating element, is housed in a case mounted outside the wing. A humidity reading shown on a dial is obtained by pressing a button as a panel mounted inside. Electric power for operation of the warning device is obtained from batteries within the unit.



#### Four engines electrically "geared" as one

For greater passenger and crew comfort during the longer flights of modern multi-engine airplanes, the objectionable "beats" resulting from small speed variations between engines must be eliminated.

The Curtiss Automatic Synchronizer,

relieving the attention of the flight crew for other important duties, effectively "gears" the speed of all engines electrically under the control of a single rack-and-pinion knob of the flight station.



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PRODUCTION FOR VICTORY.... PRODUCTS FOR PEACE



## Breeze Production holds a Post-War Promise

Peacetime Progress is Forged in the Flame of Wartime Production



A few of the many Breeze Products in the Nation's Service

Radio Ignition and Auxiliary Shading • Multiple Circuit Electrical Connectors • Radio Shading Conduct and Storage • Cathode Ray Tubes • Internal Tie Rods • Rudder and Rudder Tab Controls • Radio Shift and Cass Assemblies • Aircraft Annex Parts

Today in our armed forces much demand is made for products on the Inventory Control, Breeze Products Building Conduct by the mile and Breeze Multiple Electrical Connectors by the thousands are but two of the many items of Breeze manufacture that are helping make Victory possible. Communications and transportation for our fighting units on land, sea, and in the air are aided every minute of every hour by the dependable performance of such vital Breeze products as Radio Ignition Shading, Auxiliary Annex Parts, Fluo-

dide Shaft and Cass Assemblies, Tab Controls and Auxiliary and Card-edge-type Engine Brakes. Conversely, the same production lines that were able to turn out these items in such vast quantities, and the same hands whose skill and experience engendered them, will be available to manufacture the goods of peace. And the Breeze Mark which which has become a symbol of dependability in our fighting units on a worldwide basis will continue to be a mark of quality on products of the future.

**Breeze** **BREEZE MARK**

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## FINANCIAL

### Widening Spread Between Airline Expenses and Revenues Is Halted

Reports of six companies indicate operating costs no longer are rising faster than earnings; May income up 36 percent while outlay gains 16 percent.

Earnings reports for six domestic airlines indicate that the trend of expenses rising faster than revenues has been stopped.

The six lines reported total operating revenues of \$7,370,826 in May, compared with \$6,956,704 in May, 1943, an increase of 54 percent, while operating expenses of \$5,166,830 compared with \$4,461,224 in May a year ago, a gain of 16 percent.

In April, 1944, however, the six companies showed a gain of only 5 percent in operating revenues, with a total of \$6,257,074 as compared with \$5,956,633 in April, 1943. Operating expenses, on the other hand, were up 17 percent to \$4,970,555 from the \$4,341,517 reported in April a year ago.

Profits Up Sharply—Not profit after allowances for taxes, etc., during May was \$1,215,381, an increase of 102 percent over the \$410,481 reported by the six companies in May, 1943. In April, 1944, net profit for the six lines was up 12 percent to \$1,104,721 from \$930,014.

The accompanying Table A shows operating revenues and expenses, together with net profit after taxes, for six domestic airlines during April and May, 1944, compared with the like periods a year ago.

In the first quarter this year, operating revenues for all domestic air carriers aggregated \$18,425,706, compared with \$16,154,324 in the first three months last year, an increase of 17 percent. Operating expenses in the same period averaged 36 percent to \$28,944,034 from the \$19,727,881 in the first quarter of 1943. Net profit after taxes declined to \$2,073,336 from \$3,323,471.

Table B shows first quarter earnings compared with the like 1943 period.

Meanwhile, traffic figures continue to show sizable gains in revenue passenger-miles and mail pound-miles, although April ex-

penses pound-ounces dipped slightly below the corresponding month of 1943.

During the first four months this year, revenue passenger-miles totaled \$22,758,984, compared with 469,911,019, and pound-ounces were 23,100,861,969 against 20,812,740,153; and expenses pound-

miles were up to 9,726,443,758 from 9,660,561,951 reported in the first four months of 1943.

Traffic records for the domestic lines during the first four months of 1944, compared with the first four months of 1943, are shown in Table C.

### Financial Reports

✦ **Eastern Air Lines** Co. reports for three months ended May 31, net income of \$4,807 against \$11,321, or two cents a share, in the previous period.

✦ **Northwest Airways** reports net earnings for the quarter ended June 30 at \$233,330 compared with \$96,599 in the March quarter, making total net of \$319,333 for the first six months of 1944 against \$429,182 earned in the first half of 1943.

✦ **Northwest Airlines** directors have voted a dividend of 50 cents a common share payable Sept. 1 to stock of record Aug. 18.

TABLE A

	1944	May 1943	1944	April 1943
<b>Profit Air Lines, Inc.</b>	\$416,651	\$10,887	\$237,720	\$104,279
Operating revenues	369,284	369,284	369,284	369,284
Operating expenses	11,348	12,000	11,348	11,348
<b>Chrysler &amp; Douglas</b>	112,706	182,303	112,706	112,706
Operating revenues	245,000	182,303	245,000	245,000
Operating expenses	70,000	182,303	70,000	70,000
<b>Delta Air Corp.</b>	299,000	299,000	299,000	299,000
Operating revenues	299,000	299,000	299,000	299,000
Operating expenses	299,000	299,000	299,000	299,000
<b>Eastern Air Lines, Inc.</b>	5,449,153	4,699,700	5,449,153	4,699,700
Operating revenues	5,449,153	4,699,700	5,449,153	4,699,700
Operating expenses	5,449,153	4,699,700	5,449,153	4,699,700
<b>TWA</b>	1,000,000	1,000,000	1,000,000	1,000,000
Operating revenues	1,000,000	1,000,000	1,000,000	1,000,000
Operating expenses	1,000,000	1,000,000	1,000,000	1,000,000
<b>United Air Lines</b>	5,987,000	7,222,300	5,987,000	7,222,300
Operating revenues	5,987,000	7,222,300	5,987,000	7,222,300
Operating expenses	5,987,000	7,222,300	5,987,000	7,222,300
<b>Transcontinental &amp; Western Express, Inc.</b>	1,225,000	1,225,000	1,225,000	1,225,000
Operating revenues	1,225,000	1,225,000	1,225,000	1,225,000
Operating expenses	1,225,000	1,225,000	1,225,000	1,225,000

TABLE B

	Operating Revenues	Operating Expenses	Net Profit
March 1944	\$10,100,000	\$6,800,000	\$3,300,000
Q-1 1944	\$30,300,000	\$19,800,000	\$10,500,000
Q-1 1943	\$18,425,706	\$12,600,000	\$5,825,706
Q-1 1944	\$18,425,706	\$12,600,000	\$5,825,706
TOTAL	\$30,300,000	\$19,800,000	\$10,500,000
Q-1 1944	\$30,300,000	\$19,800,000	\$10,500,000

TABLE C

	Rev. Pass. Miles	Rev. Mail Pounds	Mid Point-Miles	Expenses Pound-Miles
April 1944	1,449,722	11,177,744	1,449,722	1,449,722
March 1943	1,449,722	11,177,744	1,449,722	1,449,722
February 1944	1,449,722	11,177,744	1,449,722	1,449,722
January 1944	1,449,722	11,177,744	1,449,722	1,449,722
December 1943	1,449,722	11,177,744	1,449,722	1,449,722
November 1943	1,449,722	11,177,744	1,449,722	1,449,722
October 1943	1,449,722	11,177,744	1,449,722	1,449,722
September 1943	1,449,722	11,177,744	1,449,722	1,449,722
August 1943	1,449,722	11,177,744	1,449,722	1,449,722
July 1943	1,449,722	11,177,744	1,449,722	1,449,722
June 1943	1,449,722	11,177,744	1,449,722	1,449,722
May 1943	1,449,722	11,177,744	1,449,722	1,449,722
April 1943	1,449,722	11,177,744	1,449,722	1,449,722
March 1943	1,449,722	11,177,744	1,449,722	1,449,722
February 1943	1,449,722	11,177,744	1,449,722	1,449,722
January 1943	1,449,722	11,177,744	1,449,722	1,449,722
December 1942	1,449,722	11,177,744	1,449,722	1,449,722
November 1942	1,449,722	11,177,744	1,449,722	1,449,722
October 1942	1,449,722	11,177,744	1,449,722	1,449,722
September 1942	1,449,722	11,177,744	1,449,722	1,449,722
August 1942	1,449,722	11,177,744	1,449,722	1,449,722
July 1942	1,449,722	11,177,744	1,449,722	1,449,722
June 1942	1,449,722	11,177,744	1,449,722	1,449,722
May 1942	1,449,722	11,177,744	1,449,722	1,449,722
April 1942	1,449,722	11,177,744	1,449,722	1,449,722
March 1942	1,449,722	11,177,744	1,449,722	1,449,722
February 1942	1,449,722	11,177,744	1,449,722	1,449,722
January 1942	1,449,722	11,177,744	1,449,722	1,449,722
December 1941	1,449,722	11,177,744	1,449,722	1,449,722
November 1941	1,449,722	11,177,744	1,449,722	1,449,722
October 1941	1,449,722	11,177,744	1,449,722	1,449,722
September 1941	1,449,722	11,177,744	1,449,722	1,449,722
August 1941	1,449,722	11,177,744	1,449,722	1,449,722
July 1941	1,449,722	11,177,744	1,449,722	1,449,722
June 1941	1,449,722	11,177,744	1,449,722	1,449,722
May 1941	1,449,722	11,177,744	1,449,722	1,449,722
April 1941	1,449,722	11,177,744	1,449,722	1,449,722
March 1941	1,449,722	11,177,744	1,449,722	1,449,722
February 1941	1,449,722	11,177,744	1,449,722	1,449,722
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September 1935	1,449,722	11,177,744	1,449,722	1,449,722
August 1935	1,449,722	11,177,744	1,449,722	1,449,722
July 1935	1,449,722	11,177,744	1,449,722	1,449,722



## CAB Research Staff Analyzes Trans-Atlantic Air Service Pattern

Analysts' reports on prospective post-war traffic volume and flow offer alternative plans based on competition on U.S.-controlled lines.

By MURKIN MCKEL

Civil Aeronautics Board analysts have estimated that total traffic and mileage in an "economically feasible" service pattern between the U. S. and the European-Mediterranean area would require 40 four-engine aircraft of 8,000 pounds payload capacity for over-ocean service, plus 23 two-engine craft of 5,000 payload capacity for intra-European service.

The report was presented at the annual planning conference on North Atlantic air routes. Written by CAB's Research and Analysis Division under Frank H. Crocker, the report offers a plan for six over-ocean routes in one service pattern and three in another. Both contemplate competition on U. S. controlled routes.

**Competition Factor**—Service Pattern I, however, as predicted on about twice that much in foreign segments and at certain European cities the Division feels would be economically justifiable. Hence Service Pattern II, representing the approximate extent to which such competition is thought economically feasible with at least an equal amount of European service, recovers the emphasis. Unlike Pattern I, which visualizes participation in direct competition by U. S. flag carriers at London, Paris, Rome and Berlin, Pattern II assigns one geographically integrated route to each race.

Use of link planes throughout is assumed. Admittedly there is some doubt whether U. S. carriers will be permitted to establish operational bases abroad where they could make the suggested shift from the four-engine over-ocean equipment to two-engine planes operating to interior points on the European continent.

**Exhibits**—The Division's exhibit, showing gateway points and laid considerations detailing the switch, also discloses traffic vol-

ume and dispersion characteristics "as undeviable" on the two major segments that they raise a serious question regarding the economic feasibility of those segments "unless it can be assumed that in addition to inter-continental traffic European cabotage and trans-boundary traffic will be available."

As an alternative, the suggestion is made that advantageous traffic interchange arrangements at European gateway traffic centers might be worked out with foreign carriers.

**Realistic Framework**—Completed about the time of the Division's report on overseas mail traffic, the pattern survey is an attempt to give a realistic frame-

work for traffic allocation. Crocker says in a foreword, covering North Atlantic routes between the U. S. and the European-Mediterranean area. It seeks to establish an appraisal of probable volume, dispersion and seasonality of potential air passenger and mail traffic, plus scope of service adequately and reasonably attainable. To do so it is based on interstate passenger statistics for calendar 1938 and mail statistics for the fiscal year ended six months later.

Thoroughness of the investigation is evident from its consideration of the potentials of individual foreign cities as well as foreign countries in which they lie. This type of statistical breakdown usually stops with the latter.

**Traffic Potential**—The Division does not expect all first and cabin class passengers, with whom the report deals, will take to the air after the war. Nor does it believe overseas air transportation will be limited to travel formerly commonplace. If CAB Member Edward Winter is correct in his belief that half the maximum pre-war trans-Atlantic travel in first and cabin classes may shift to the air, and newly created Atlantic air traffic may equal twice the amount diverted from previously existing channels, the report asserts, about 94 percent more travelers can be

expected to move over the North Atlantic routes than the total the Division's analysis distribution over the projected service patterns.

Crocker and his staff make no predictions of post-war trans-Atlantic air traffic. Rather, their study is intended as a basic pattern of proportionate distribution on the basis of known pre-war surface travel.

**Average Costs Estimated**—"It seems reasonable to expect," they say, "that within a few years after the end of the war the total air traffic over North Atlantic routes will greatly exceed that available before the war. It also seems certain that the service to provide for this traffic will increase many fold."

But that increase must be moderately shared and regulated if operating costs are to be favorable. An efficient estimate was made that under "ideal conditions of international cooperation and integrated and efficient management," average costs under the favored service pattern would run about \$1 per plane mile (intercontinental service) and from \$2.30 to \$3.50 per plane mile for over-ocean service.

The study presumes competing foreign service to the extent of at least as many carriers as there are flying the U. S. flag. Nevertheless, it reflects a feeling that the country that generates the traffic is the one that carries it, and since typically 80 percent of all first and cabin class travelers between the United States and the European-Mediterranean area are U. S. residents, that is taken as a possible strategic advantage in negotiation with other governments for establishment of cooperative services.

### Original Survey

When CAB's Research and Analysis Division began work more than a year ago on the report on air service patterns for trans-Atlantic post-war traffic, it started from scratch. No other studies on which traffic volume and flows might be predicted were available.

Since its completion and until the pre-war conference on Atlantic route apportionment, the report was closely held. Only a few copies had been distributed. Those sent to Civil Aeronautics Board members and other government officials.



RAF FORTRESS CARRIES THOMP MAIL:

Royal Canadian Air Force is using Flying Fortresses on its mail service to Europe overseas. This Fortress is being loaded with mail bags destined for the Mediterranean war zone.

**Mileage**—Total route mileage for the three routes visualized in Service Pattern II would be 36,774, of which 21,255 would be four-engine segments and 8,816 two-engine. All mail and passengers would of course be carried over the four-engine segments, including those who went on by two-engine equipment.

**Route 1**, projected to serve Northern Europe, would cover Holland, Scandinavia, North Germany, Czechoslovakia, the Eastern Baltic States, Poland and European Russia. Of its total of 11,590 route miles, 1,516 would be four-engine segments and the remainder two-engine.

**Route 2** is projected to serve Britain, Central Europe and the Near East, and shows greater travel indication than Route 1 and 3 combined. Over 50 percent of the indicated travel on Route 2 is between the U. S. and British Isles, the balance going via London between the U. S. and Belgium, Austria, Hungary, Rumania, Turkey, Syria, Palestine, Yugoslavia, Bulgaria, Greece and Egypt. Total route mileage on Route 2 would be 7,844, of which 4,320 would be over-ocean four-engine segments.

**Route 3**, projected to serve Portugal, Spain, France, South Germany and Italy, would have 18,114 route miles, of which 5,995 would be four-engine operation.

### Line Criticized In Accident Report

Eastern Air Lines is sharply criticized for "unreasonable lack of safety precautions" in the Civil Aeronautics Board's report on an accident involving an Eastern plane at New Orleans last November. The report indicates, however, that Eastern has since amended its Manual of Operations to insure maximum safety.

Although passengers and crew were uninjured, the plane was considerably damaged, losing the left propeller, reduction gear, cowling and part of the front crankcase. Parts of the left landing gear, fuselage and left wing were damaged.

**Altitude Misjudged**—The Board found that because of a misjudgment in altitude during a night landing approach over water in local instrument weather, the left propeller tips and landing gear had struck the water.

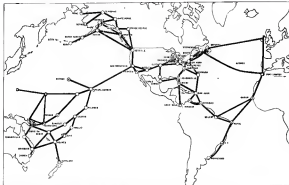
Contributing to the accident, the Board found, were inattention of the operating crew to instruments and "failure of the commander to prepare and enforce compliance with an adequate manual of operations stipulating procedure to promote safe operation."

The Board has not issued its report on American Airlines' crash near Memphis last February.



ANAC CLIPPER OVERHAULED AT LAGUARDIA FIELD:

Nearly 1,500 employees, of whom 700 are women, work with a score of engineers and other technicians at Pan American Airways' marine terminal at LaGuardia Field, New York, to keep PAA's Clipper flying. Photo shows the Anzac Clipper undergoing overhaul. Wings have been removed, engines pulled, and the interior stripped of flooring.



#### WHERE NAVAL AIR TRANSPORT SERVICE FLIES:

This is the Navy's first public showing of its great two-ocean, five-continent Air Transport Service. Routes of NATS reach to points where Japs have been pushed out, and will follow there as back. Several terminals in mid-Pacific cannot be named. One undoubtedly is in the Marianas, where Japan

has been captured and Guam is tottering. General pattern of NATS overlaps and on main routes duplicates operations of Army's Air Transport Command. Army crosses Africa in the north, central and southern parts, and goes on to India, whereas Navy merely traverses the coast.

#### CAB Asks Changes In Pilot Tests

Classification of the respective duties of medical examiner and flight examiner of applicants for private pilot certificates is sought in two changes in Civil Air Regulations proposed by the Civil Aeronautics Board.

One would require that any structural defect or limitation be noted on the applicant's medical certificate, and the other that when there is such a defect the applicant may show whether he has ability to fly safely by a demonstration before a CAA inspector. Provision is made for any additional maneuvers and tests that may be found necessary to demonstrate ability.

► **Shifts Responsibility**—Present regulations are so worded that medical examiners also may pass on structural defects as a factor in ability to fly. This responsibility now passes to the flight examiner. The proposed regulations, under which the pilot certificate may be

limited to type of aircraft or operation and duration of the period for reexamination, are expected to have increasing importance as returning service men seek to enter aviation.

#### Air Force Personnel Ask Feeder Routes

Other applications filed with CAB include request by Mexican line for temporary service.

Applications filed with Civil Aeronautics Board last week included a petition by an office on arrival duty with the Army Air Force, Lt. Col. Richard C. Kugel, for a system of feeder routes in eight mid-Western states.

Kugel plans incorporation of North Central Feeder Airlines, the officers of which will be officers now in the Air Force. Personnel for the airline will be ex-service men with Army or Navy aviation experience.

Auditors is sought for a scheduled mail, passenger and express

service in Missouri, Illinois, Iowa, Wisconsin, Minnesota, Indiana, Ohio, and Michigan.

► **Earlier Precedent**—In a recent similar instance, Twaas-Desmoe Air Line, representing a group of wartime pilots, filed for extensive orientational routes. This application is included in the North Atlantic case.

Aero Transports S. A., a Mexican airline with headquarters at Mexico City, filed for a temporary 90-day permit to operate into Brownsville and Eagle Pass, Tex., pending reports to the fields at Matamoros and Piedras Negras, Mexico. The applicant states it has recently acquired a Boeing B-17-D which cannot use the Mexican airports in their present condition.

► **Asks Unscheduled Service**—Capital Transfer and Storage Co., Charleston, W. Va., applied for a certificate to authorize air transportation of property only in unscheduled operations to all parts of the U. S. The applicant proposes to coordinate the air service with motor freight operators it now conducts.

## Mail Pound-Miles Gain 51% in Year; PO Officials Doubt Post-War Slump

Washington authorities believe high level of air mail traffic will be retained but doubt immediate development of "all first class by air" policy or widespread feeder system.

By BLAINE STUBBLEFIELD

Despite shortages and the postage increase, air mail pound-miles in fiscal 1944, ending June 30, increased 51.83 percent over the previous year. While some of the data on which this conclusion is based by responsible sources is uncorroborated, it is not likely that the final reckoning will bring the increase below 50 percent.

Some well-informed Post Office officials, expressing personal opinions to Aviation News, said they do not expect that the phenomenal air mail increases of the past few years will be followed by comparable slumps, if any, after the war. Millions of service men, and civilians, have learned the air mail habit, and are not likely to drop it, they said. The public is getting an "anxiety psychology" and wants to mail to go by air.

► **Against Mailbox Growth**—The high level of air mail use expected next year does not necessarily imply inevitable maintenance of the "all first class mail over night" service as much discussed before the war. Testimony of Post Office officials during the Senate feeder law hearings indicates the PO is opposed to any such mailbox development. The Board has taken a similar stand.

Prospects are now that there will be no major shift to overnight delivery. Post Office spokesmen say there is overnight delivery now to most popular centers, and point out that it would be unfair to ban all first class mail together and fly it all at the public expense. People who use the service should pay for it. Millions use air mail seldom if ever. They should not be charged for it.

► **Balk at Unnecessary Service**—Personal opinion of some interviewed is that giving subsidies to airlines for unnecessary services would soon or later stir public clamor for both carriers and the Post Office. Whichever party comes into power here will be watchdogs pointed on spending. The PO wants to operate along "sound business" lines. The air

mail branch has been in the black for two years and it wants to stay there.

The opinions of Post Office and CAB officials could, however, make little difference if Congressional groups should find that they can win public favor by an air mail economy in preference to economy. The need for support of the airplane manufacturing industry as a big job maker could furnish a big argument for unrestrained expansion of the mail system. There is the possibility, too, that Congress will some day decide that it would be economical to build a huge domestic air system as a nucleus of a war transport system when needed.

► **Service Improves**—The Post Office is well pleased with improvement in air mail delivery during recent months. Officials say that not any of the air mail is being put on trains. Some of it is offloaded for a short time, but the multiplicity of schedules on the

trans-continental lines — more trips than ever before — means that all delayed pouches are soon packed up by following trips. There were times, last winter, when some airlines and city spokesmen stated that about half of the air mail was seriously delayed.

Improvement in the service is almost entirely due to the gradual return of reconditioned airplanes (32 in all) to civilian service. The Post Office people say. No one in those marble halls wants to talk about the PMO's long scrap with the Army — or what he was there airplane space for mail, and dashed the air mail priority system which the Army wanted him to set up.

## New BOAC Record

British Overseas Airways Corp. reports a new flying time to be added to the frequent records for flights over the North Atlantic. The Berwick, a Boeing 314, flying back, flew from New York, N. Y., to London, N. Y., in 11 hours, 33 minutes. BOAC has concluded, after two years of operating the North Atlantic, that "a safe, regular, two-way commercial air service across the Atlantic can be established after the war, as soon as the necessary aircraft become available."

► **Major Problems Solved**—A recent BOAC announcement and the

## Air Mail Score to June 30

Tabulated below are totals of air mail pound-miles performed on scheduled routes during three years. Figures are from responsible sources. There are not sharp increases because some of the most recent data are estimated by the source, and some mileage changed in circulation, under the current system. Wherever possible, the load on any line, any given day, may be shared only a larger route to some destination. Further, airlines do not still have

their pay claim reports to Post Office because they lack book-keepers and because they agreed that 10 percent of mail revenue is built in any given day. Post Office pays them 60 percent of estimated air mail revenue, estimate based on three previous months. Operators get the rest when their reports are received. Sometimes an operator owes the government, on final account. In that case, the amount is deducted from next check.

	1944	1943	1942
July	8,554	5,465	5,213
Aug.	8,294	5,494	5,229
Sept.	8,294	5,494	5,229
Oct.	8,294	5,494	5,229
Nov.	8,294	5,494	5,229
Dec.	8,294	5,494	5,229
Jan.	8,294	5,494	5,229
Feb.	8,294	5,494	5,229
Mar.	8,294	5,494	5,229
Apr.	8,294	5,494	5,229
May	8,294	5,494	5,229
June	8,294	5,494	5,229
Total	50,000,000	30,000,000	28,000,000
Percentage over previous year	51.83	75.00	80.00



line's technicians, after nearly three years' experience, are convinced that they understand the major problems involved in regular operations over the route and are working out necessary solutions on a practical basis.

"It is perhaps not too much to say that under the auspices of war emergency, work was accomplished in less than two years which, in peacetime, might have taken ten," the statement said.

## Confirm Six-Runway Plan For Idlewild

To start work on first three at once; estimate total cost of airport at \$67,869,000; see initial operation late in 1945.

An all-weather operation that will permit precision schedules on services using New York's new Idlewild Airport was announced last week by Mayor F. H. La Guardia as he made public the plans for six great runways for the field. The Mayor's announcement confirmed the story published a week earlier in *Aviation News* (August 1, page 46) in which the decision to build six runways was disclosed for the first time.

Total cost of the airport as now planned will be \$67,869,000, it was announced, including \$36,339,000 for land; \$30,100,000 for drainage, filling and paving and utilities; \$7,500,000 for the administration building; \$2,125,000 for roads and bridges; \$350,000 for a utility building and \$460,000 for the Civil Aeronautics Administration building.

The city received \$9,250,000 from the Federal government for Floyd Bennett Field and has since sold two bond issues, one of \$1,215,000 and the second of \$1,749,000. The latter bond sale, completed last week, was counterbalanced at an interest rate lower than any on record for relatively long-term funding of New York City bonds. Chase National Bank submitted the low bid at 181/3294 on the 3 1/2 percent bonds maturing from Aug. 1, 1945 to 1954. The issue has been offered at prices to yield from 3.46 to 3.65 for the 1946-49 maturities and 39.9 to 38.5 for the 1954-54 bonds.

The airport, which the Mayor announced will be ready for operations, however skeleton-like, in the fall of 1945, will make exten-



## NEW ROUTES GRANTED AEROVIAS BRANIFF:

International routes totaling 3,667 miles, recently granted Aerovias Braniff by the Mexican government, would extend the carrier's operations to Los Angeles, Miami, points in Central America and Havana. The line, which already has 4,482 route miles in Mexico, is owned by T. E. Braniff, president of Braniff Airways. Acquisition of the routes by Braniff Airways is pending before the Civil Aeronautics Board.

sive use of radar and other technical developments of the war to provide safe operation for planes in rain, snow, fog or wind.

Construction of the first three of the six approved runways will begin immediately. Grading is already in progress and bids for the paving will be opened shortly.

In the heart of the six runways is the 306-acre site of the administration building with a paved apron as wide as 3,999 feet at some points. Runways will be 300 feet wide and 10,000 feet long. While it is expected that about 40 hangars will be constructed, their design and exact location has not been decided until the needs of the individual airlines can be considered. Some of the hangars may be built by the line's customers.

A careful "eye-to-the-future" planning is indicated by the fact that the proposed runways will accommodate planes weighing as much as 300,000 pounds, according to Jay Downer, city engineer, whereas the largest plane now in use weighs less than 100,000 pounds.

## CAB Cuts CA's Mail Pay Rate

Confidential Air Lines rates of mail pay were revised sharply downward last week in a decision of the Civil Aeronautics Board. From Aug. 15, 1944, to Apr. 30, 1945, the rate was lowered to 45.21 cents per airplane mile from 65.5 cents. From May 1, 1944, the rate established is 24.55 cents per airplane mile for a base percentage of 34.5, with 8.00 cents per mile for each pound over the base.

Between Aug. 1, 1943 and March 31, 1944, Continental required \$335,500 to break even on its operations. The Board found this sum necessary to account for the difference between operating expenses of \$834,759 and non-paid revenue of \$510,259.

>5 Percent Return—In addition to this amount, the Board decided that an 8 percent return upon Continental's recognized investment would "provide earnings sufficient to insure its credit and to keep it in a position to attract additional capital." This return,

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before payment of 40 percent Federal income tax, was fixed at \$88.82. The 45.31 cent rate is based on these amounts.

For future operations, CAB based Continental's rate on a recognized investment of \$305,446. The 8.6 percent return allowed by the Board will amount to \$123,489 annually before Federal income tax at 40 percent.

**Formula**—Present rate of 34.60 cents per plane mile is based on an average daily designated mileage of 7,393 miles. For any month during which this figure is not reached, the 34.60 rate applies to the base percentage of 394 pounds, with excess percentage at the rate of 0.03 cents per plane mile for each excess pound.

The Board proposed a formula to adjust mail fees calculated to maintain the 34.60 rate when the daily designated mileage is greater than 7,393 miles.

## Other Nations Asked For Views on Routes

State Dept. requests major carriers to disclose which international airways interest them.

Following example set by Civil Aeronautics Board in its announcement of a route pattern desirable for the U. S., other nations are expected shortly to disclose which international air routes are of prime interest to them.

The information will be submitted to the State Department in accordance with a request made by the Department late in July of all countries chiefly concerned in international aviation, including Great Britain and Mexico.

The Department's move was a logical follow-up to the CAB action, in the opinion of observers who recall that Chairman L. Welch Page stated that while CAB and the State Department have been in continuous touch with foreign governments, those governments were not consulted on the specific routes outlined by CAB. The chairman declared at the time that foreign airlines had been "advanced" of CAB's deliberations.

**No Replies Received**—According to the aviation division of the State Department, no replies have yet been received. The note asked for each government's position to the CAB route pattern, as well as the delineation of routes which that government felt would be of greatest concern to its own nation.

## Seaplane Ports

Although terminal facilities for water planes were not included in the agenda of the Joint Airport Users Conference, D. E. Tibbs, operations manager of Glenn L. Martin Co., was given the floor to point out that water bases cost far less than land facilities.

He advocated use of flying boats in large cities for transport service, and two square miles of water, five feet deep, a seaplane, and usually available at miles with harbors. For island operations, Tibbs said it would be feasible to excavate runways on the island perimeters and fill them with water instead of expensive hard surface material.

Reaction to Tibbs' remarks was one of intense interest. It was clear that, while air operations are the core of the character of water planes, they are in the habit of thinking almost exclusively in terms of aircraft and equipment and terminals. Outcomes of the subject from the speaking program undoubtedly will be an increased tie in line with this tendency.

The fact that the request went to Great Britain and Canada, two countries which have concluded preliminary aviation talks with the U. S., is thought to confirm previous assumptions that diplomatic sources that these initial discussions did not involve routes.

## ATA Maintenance Meetings Resume

Airlines, AAF and Navy was aviation maintenance award.

Air Transport Association's engineering and maintenance conferences hereafter will be held on the premises of the Board of Airline Engineers. It was announced at the 27th session, held last week in Chicago, first meeting since before the war.

Otto E. Kitchner, director of aircraft engineering for American Airlines at New York, was elected conference chairman for the coming year, succeeding R. L. Anderson, engineering and maintenance superintendent for Chicago & Southern Air Lines.

Attended by nearly 150 representatives of the airlines, manufacturers, and government, special conferences were held on aircraft and engines, propellers and engine

accessories, line maintenance, personnel, fuel specifications, de-icing, and other technical developments.

Aviation magazine presented its annual plaque "in recognition of vital contribution to the war effort through outstanding maintenance performance" to each airline, the Army Air Forces and the Navy Bureau of Aeronautics.

## Memphis-Detroit Route Granted C & S

Page discuss on allocation of 660-mile line, declaring 279-mile Detroit-Indianapolis link would serve purpose.

Civil Aeronautics Board last week granted Chicago and Southern 660 new route miles, extending its AM 50 from Memphis to Detroit via Paducah, Ky., Evansville, Indianapolis, Anderson - Muncie - New Castle, Marion and Fort Wayne, Ind., and Toledo, Ohio. The new route makes C & S a 2,310 mile airline.

Chairman L. Welch Page denied, stating that the majority authorized 662 new route miles to fill the need for service between Detroit and cities in Indiana, which could be accomplished by only 279 miles between Detroit and Indianapolis. Page favored granting TWA authority to provide the local service in Indiana. He said he could not approve giving another trunk line carrier a "substantial part of the business available in the narrow area within the triangle of Detroit, Cincinnati and St. Louis," a territory in which TWA operates.

**Detroit-St. Louis**—The majority of the Board turned down applications for routes between Detroit and St. Louis, Cleveland and St. Louis, Cleveland and Memphis, Detroit-Cleveland and Omaha, Neb., and between Kansas City and St. Louis. The Board said that traffic on the Detroit-St. Louis route was not sufficient to "justify the operation of parallel services unless under absolute necessity."

The new route granted C & S provides a link in a north-south transcontinental from Detroit to Houston. The Memphis-Detroit segment will strengthen C & S without undue disturbance to the competitive situation in the area, the Board said.

The decision amended the certificate of TWA to include Terre Haute, Ind., as an intermediate point on AM 2.

## House Group Opens Civil Aviation Study

Investigation by eight members of subcommittee includes daily trip throughout U. S. and Alaska.

Eight Aviation Subcommittee members of the House Interstate and Foreign Commerce Committee are on a field study of civil aviation that is taking them to leading air centers in the U. S. and Alaska. The investigation, which may be the forerunner of other similar studies, is a personal familiarization tour expected to provide background for the group's legislative activities. The trip is requiring most of this month, and finds the group at Juneau early this week, if they are on schedule.

**Itinerary**—They left from Chicago last week after a visit at United Air Lines. Their itinerary was planned to include visits to Northwest Airlines at St. Paul and Mid-Continent Airlines at Minneapolis, en route to Alaska via Edmonton, Alberta, on ATC schedule, visits and inspections at Fairbanks, Nome, Anchorage and Juneau, including CAB and CAA offices at Anchorage, inspection at the flagship plane at Seattle and Pan American Airways facilities at San Francisco; a visit to Lockheed and Douglas plants at Los Angeles, stops at Salt Lake City and Denver with respect to Continental Air Lines' facilities and modification center at Denver, and a stop at TWA and Mid-Continent headquarters at Kansas City.

The trip is believed to be the first of its kind by a Congressional group. This subcommittee previously visited the Glenn L. Martin Co. factory at Baltimore, called at FCA and TWA plants in Washington, and rode in the Constellation.

The study is being made under authority of a resolution introduced last September by Rep. Alvin O. S. Smith, committee chairman, calling for an investigation of "such matters related to present and probable future conditions and developments in and affecting air navigation and domestic and foreign commerce as it may deem advisable."

**Members of Group**—Houder-Bulwinkle, the touring group includes Reps. Chapman of Kentucky, Boyd of Ohio, and McNamara of Texas, Harlan of Arizona, Hiramson of California, Howell of Illinois, and O'Hara of Minnesota. Rep. Frank of Tennessee, another member of the Aviation Subcom-



## AMERICAN STARTS SERVICE TO SAN ANTONIO:

American Airlines inaugurated service to San Antonio, Texas, on AM 26 early this month with ceremonies attended by officials of the U. S. and Mexican governments. O. H. Mason (right foreground), vice-president of American, with a principal speaker, General Carlisle Calderon (left), wife of the Mexican Consul General, christened the Flagship San Antonio.

mities was unable to make the trip. With the investigations are Elton J. Layton, clerk of the Committee, Raymond F. Warner, member of the Civil Aeronautics Board, and Owen, director of the Air Transport Association's operations division, and Maj. C. W. Casser of War Department Intelligence.

## Minneapolis-St. Paul Body To Take Over Port

The Minneapolis-St. Paul Airports Commission is expected to take over Wold-Chamberlain Field at Minneapolis and Huginn Field at St. Paul within the next few weeks as the result of a recent decision by the Minnesota Supreme Court.

**Rebarring Denied**—The court denied application by a Minneapolis and St. Paul committee of a previous decision in which the city creating the Commission was declared constitutional. The attorney, Mart Moschman, filed the original action charging that the 1943 law creating the Commission was invalid.

Minneapolis challenged validity of the act on grounds that it applied to "boroughs cities of the first class" and thereby was special legislation designed only for Minneapolis and St. Paul. The Court held that it applied to both present and future cities are contiguous cities of the first class.

## S. F. Seeks To Be West's Air Capital

San Francisco is preparing to become the post-war air capital of the west, its business leaders say, through the expenditure of millions in private and government funds for airports, capture of major airline "terminal" designations for both domestic and trans-Pacific routes and by an attempt to force the move of the sixth region headquarters of the Civil Aeronautics Administration from Santa Monica in southern California.

One influential group of San Francisco aviation supporters already has sounded out CAA officials on airport, office and show needs for a CAA headquarters and also housing needs for transfer of more than 100 CAA employees now living in the Los Angeles area. A member of the group explained: "It was a mistake for us ever to



## Canada Pushes Plans To Take Over Bases

Officials scheduled to leave Ottawa for Manitoba inspection tour of U.S.-built airfield.

Canada is moving ahead with plans for use of the eastern Arctic bases which Ottawa announced Aug. 1 were to be taken over from the United States, which is now using them for defense purposes.

A group of Canadian government officials was to leave Ottawa last week for Churchill, Manitoba, to start an inspection. Among them were officials from the Department of Transport, which looks after civil aviation, and the Department of Mines and Resources, which has jurisdiction in the Northwest Territories.

Canada to Reinforce U. S.—The reinforcement Canada is making for bases both in eastern and northwestern Canada amounts to nearly \$17,000,000 in U. S. money. In addition Canada has taken over expenditure of nearly \$35,000,000 expenditures which the United States originally was to repay to



### U.S. CHIEFS CONFER:

United Air Lines' chiefs recently met at San Francisco to talk about refueling and meal planning for air passengers. All attended their early training in their native United States, and joined United after coming to England and restaurants in this country and abroad. Left to right they are (free) Bob Sullivan, New York; and Carl Stevens, Denver, and (front) Max Barakhardt, Los Angeles, John Gredin, Chicago; Ernest Munner, Portland; Bruno Pen, Omaha; and John Dineen, San Francisco.

The Dominion also has spent nearly \$10,000,000 on development of the big airbase at Goose Bay, near Hamilton Inlet, Labrador.

In all, Canada is spending nearly \$120,000,000 on these northern air bases, which will be fully Canadian-owned as soon as the Canadian scheme is completed. The United States will not own any air installation on Canadian territory.

No Immediate Benefit—Canada will not immediately have great value out of the Hudson Bay and Hudson Strait air bases, which account for \$11,000,000 of the expenditure. These were built to enable aircraft to fly by a northern route to Europe from the west coast, as well as for defense purposes. The route centers at Churchill on the west coast of Hudson Bay, where Canada built a big seaport with grain elevators more than a decade ago, for shipment of grain to Great Britain via the Hudson Straits. The new air bases are expected to aid the seaport's use.

The Dominion will study Russia's experience in operating Arctic seaports. The sea route is believed to have post-war possibilities through use of weather sta-

tions at the air bases and aircraft to help ships find their way through icefields.

Northern Expansion—The Hudson Bay route also is expected to aid expansion of war-related areas to the north, some of which are known to have mining possibilities. Aircraft by way of these bases will be able to give faster connections to the far parts in the area.

The route from the mid-west via the Prairies, south of Winnipeg in Manitoba, to Churchill, to Southampton Island in Hudson Bay, to Presbyter Bay on the northwest coast of Baffin Island, to Greenland. An alternative route from Churchill to Greenland, or from the mid-west by way of western Ontario, traces via Chino on Niagara Bay, northern Quebec and Quebec City. Other bases included in the development are those at Miram and Goose Bay, Miram, for construction of which Canada is reimbursing the U. S. \$1,344,000, is on the north shore of the St. Lawrence River, opposite Anticosti Island. It and Goose Bay, Labrador, will be important in the immediate post-war era as bases on the North Atlantic route via Iceland to Europe. Goose Bay is an important base as present for ferrying aircraft and for coastal patrol.

Bases in northwestern Canada on the route to Alaska are being widely used already for ferrying aircraft to Russia, and the expectation is that they will be used after the war for commercial air transportation to Russia from North America.

## Naval Air Transport Aided Invasion

Admiral R. R. Stark, commander of U. S. Naval Forces in Europe, reveals that almost a quarter of a million pounds of special gear was flown from this country to amphibious forces on the south of England just before the invasion.

"Immediate receipt of this equipment was most urgent and critical of the vital factors on which the success of the operation hinged," Admiral Stark said in commending the work of the NATS. Eight planes operating in a shuttle service from an eastern U. S. airport to England carried the needed material "in time to be of tremendous value."

## SHORT LINES

Canadian Air Line Pilot Association has signed its first working agreement with Canadian Pacific Air Lines. R. E. Hildfield, president of C.A.L.A., has announced.

A master plan for airport expansion in the Metropolitan Oakland, Calif., area has been adopted by the Oakland Post-War Planning Committee. Five subdivisions have been set up to study and carry out the program. They will consider plans for further expansion of Oakland Airport, sites for new airports, and study existing and contemplated cargo facilities.

Pan Am de Brazil, Pan American Airways affiliate, has doubled its night flying schedule between Rio de Janeiro and Sao Paulo. Brazil Service has been increased also on the "bravissimo route" linking these two cities and Belo Horizonte.

Continental Air Lines plans to open a night schedule between Denver and Kansas City, now a day route, within a month. It will use two DC-7s recently delivered it from the Army.

New major two-third-century improvements at the airport at Punta Alegre, Ciego de Avila, Cuba, anticipate the possibility that the port may be a post-war stop for an airline in the Caribbean area. Low runways are being built with that in view.

One-way airmail service from Minneapolis to South Africa, to the United Kingdom was scheduled to begin May 20, according to Foreign Commerce Weekly. Mail will follow Blonzy twice weekly.

Trans-Canada Air Lines operates three reservations control centers. Two at Toronto and one at London.

Mid-Continent Airlines expects acquisition of three DC-7s to double its passenger within 60 days after their acceptance by Douglas Aircraft. MCA president J. W. Miller says it is the company's plan to replace the 14-passenger Lockheed



## LAMSA ACQUIRES FIVE BOEINGS

Lincoln Airport, Nebraska, is a Boeing subsidiary of United Air Lines, recently obtained five Boeing 247-D's to be used on its Lincoln route. Above is the first of them, named "Aquila Eagle" (Aime Eagle). Conversion of the remaining planes is under way at United's central maintenance base.

gradually with DC-7s as acquired. Northwest Airlines expects to extend its new Minneapolis-Roseville line in Portland, Ore., about Sept. 1. The line is reopening its Portland office in temporary quarters, with permanent offices to be ready about Sept. 15.

Pan American Airways reports that its Cuban affiliate, Compensa Nacional Cubana de Avionacion, has added two new schedules, one between Havana and Guantanamo and the other from Guantanamo to Havana. Miles flown daily by Cubana now total 3,963.

New Cement Spreader increased use of the "mid-recent substitution" method of aircraft runway construction is promoted by a mechanical cement spreader developed by the Civil Aeronautics Administration's Technical Development Section. The stabilization method involves bonding certain types of soils by adding predetermined amounts of

portland cement in a mixture. The mechanical spreader was developed to solve the problem of spreading bulk or sack cement evenly over the prepared and controlled proportions, and so designed to permit the parts to be disassembled and transported by air.

## Oral Argument Heard

CAB heard oral argument last week on the combined Joplin-Tulsa-Oklahoma City-Ki El Paso cases. Applicants in the former proceeding include TWA and American with Braniff, Continental and Mid-Continent as intervenors. TWA is making an attempt to AM 2 between St. Louis and Amarillo. The Memphis-Oklahoma City-Ki El Paso cases include applicants by Braniff, American, Chicago & Southern, Continental, Delta and Eastern. TWA and National are intervenors.

## Ocean Hearings

October 18 will stand as the date for hearings on the North Atlantic routes application, the American Thomas E. Wrenn announced in a report on the pre-hearing conference. Requests for postponement were transmitted to the Board, but international considerations requiring hearing as speedily as possible must lead it to adhere to the announced schedule. It seems likely that other international cases will be handled with similar dispatch.

## India Now and Post-war

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## Speed For Foreign Service

**T**WO FURTHER DEVELOPMENTS in Washington give convincing evidence that the highest Federal government officials are pushing ahead space with plans for earliest development of U. S.-international airlines to the fullest possible extent.

The first move was made by Civil Aeronautics Board to postpone date for hearings on the North Atlantic route applications as requested by Pan American Airways and other applicants who, admittedly, will have a difficult task populating data for the various hearings concentrated in the few remaining months of this year and early in 1945. The national interest makes imperative all possible speed on foreign proceedings, and CAB is wise in refusing at this time to risk bogging down after such a considerable start.

The second development, learned by *Aviation News*, is a forthright letter by the State Department to Clarence Lee, chairman of the House Committee on Interests and Foreign Commerce, urging that a bill such as H. R. 4354 introduced by Rep. Case be passed to permit CAB to grant temporary certificates of public convenience and necessity without hearings, obviously aimed at speedy, legal international expansion.

The Secretary of State says flatly that such a bill "is unacceptably to be desired from the standpoint of international air transport," and infers Mr. Lee that as soon as military considerations permit the expansion of international commercial air transport operations, "it is of the utmost importance that American operations be able to undertake additional services abroad with the least possible delay."

Mr. Hull says further: "It is essential that American private citizens engaged in legitimate business, be able to travel on American flag air carriers and not be dependent upon foreign air carriers for their sole means of air transport. Furthermore, American international airlines will have to meet increasing competition from foreign air carriers, and this will add for prompt action if such competition is to be effectively met. Neither of these objectives can be fully accomplished unless the Civil Aeronautics Act of 1938 is amended in some such way as this bill provides."

"The Department appreciates that the actual wording of the bill and how it should be administered are matters of primary concern to the Congress and the Civil Aeronautics Board. It believes, however, that the idea behind the bill is generally a good one, and that it would be extremely helpful in the conduct of foreign affairs if legislation of this type could be passed this summer. The Department has been informed by the Bureau of the Budget that there is no objection to the submission of this report."

This is straight talk. The Congress should give this matter top priority. In the meantime, if Germany should collapse before Congress can act, the Army

Air Transport Command should continue all operations necessary to accommodate U. S. official and industrial trans-oceanic air traffic.

## Lightplane Industry's Job

**T**HE THOROUGH CAMPAIGN for airports, landing strips, and small airports is one of the healthiest signs for the future of personal flying. Never has there been such intensive, coordinated activity in behalf of a single objective for private aviation.

But it should never be forgotten by industry and government that the public, if it is sold on investing public funds, should be assured that there will be a return for the majority.

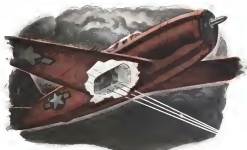
If the industry certifies, for example, that one reason as important as any lack of airports for private flying's failure to get into mass operation is the absence of a suitable, inexpensive product? It is an engineering secret that until comparatively recently no airplane offered the public maximum possible safety, as witness an accident rate higher than that for the automobile when related to a reasonable common denominator.

There have been three strikes on the average conventional aircraft. One, it is inherently capable of a multitude of attitudes leading to crash conditions. Two, control is fundamentally difficult and operating requirements lean heavily on maintaining the craft in safe flight attitudes rather than on getting somewhere. Three, flying is still pretty much an art, and John Public has never been an artist at anything.

All of the airports and airports in the world will not alter these reasons for the fact that too many planes are not acceptable vehicles to the masses. Actually, a profusion of beautifully "improved" and ideally loaded "landing strips" have always existed throughout the country in the form of waterways. Moreover, in the parts of the country where flying power is greatest, perfect water landing spots are abundant. Yet there has been no great rush on the part of the public to accept float planes, and they have been just as much available as landplanes. The trouble is that they had the same limitations with respect to safety and convenience, and consequently utility.

Up to the war, only a few manufacturers tackled the problem of private flying from the design bench. Those companies had little time to get underway before war decimated, but their success was notable and they succeeded in paving the way for a lasting public acceptance. Some other manufacturers—but not enough—were preparing to follow suit and it is in the progressive firms that the bright future of private aviation lies. The technological hurdles which have to be faced squarely are safety and capacity and these, which must be handled squarely by industry, are so important as airports.

ROBERT H. WOOD



## Taking the heat off tracers—before they hit!

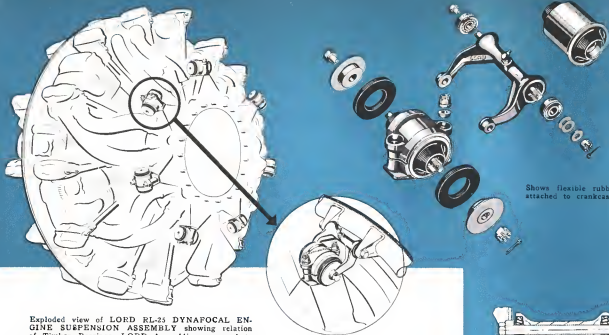
Explosive fumes from gasoline tanks, ignited by tracers, could easily blow up, send war plane crashing in flames. So our combat pilots flood the area around tanks with carbon dioxide gas from Kiddie cylinders. The fire-smothering carbon dioxide replaces the dangerous vapors, rebuffs tracer bullets of their incendiary effect.

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Our Research and Development Department is constantly working out new devices to make flying safer and more efficient. Bring them your problem!

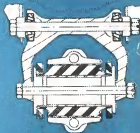


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Exploded view of LORD RL-25 DYNAFOCAL ENGINE SUSPENSION ASSEMBLY showing relation of Timken Bearings. LORD Assemblies are used to support flexibly Wright R-2600 radial aircraft engines.

Shows flexible rubber bushing attached to crankcase.



Completed assembly after engine is hooked to mounting. Due to angularity of links, actual center of gravity support is achieved, and flexibility mounting assembly allows free movement in all directions about engine C. G.

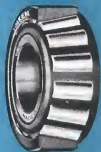
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